**NELTA** 



**EMI FILTERS** 



# **SELT4** QUALITY MAKES THE DIFFERENCE

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## DELTA EMI FILTERS-THE RIGHT CHOICE FOR DESIGN-IN

Since Delta's establishment in 1970, providing customers with top quality and reliability products has been a prime management and employee objective. We perform quality reviews at each stage of product design and process development and also strictly control quality during every step of production. We select vendors and materials very carefully since we believe that to prevent defects from occuring in advance is much more efficient and economical than to correct them afterwards.

The persistent pursuit of quality and reliability is hard work, but it has consistently paid off in long-term rela-

tionships with our customers. For example, Delta was RCA Vendor Award Winner in 1978 for supplying 20 million pcs components in 2 years without a single reject. Another RCA Vendor Award was received in 1982 for outstanding performance. We were also awarded by Zenith & DEC and have maintained a zero reject record for DEC and IBM Toronto for over 3 years on EMI Filters. Delta is also an approved ship-to-stock supplier to DEC and Wang.

Delta's EMI Filter customer base includes 5 of the top 10 U.S. computer manufacturers, as well as many other leaders in the computer and telecommunication fields.



## FEATURES AND BENEFITS FOR THE OEM USER

#### 1) UL, CSA, VDE And SEV Safety Standards

All Delta filters are designed to meet UL standard 1283, CSA standards C22.2 No. 0, No. 8, and VDE standard 0565 parts 1, 2 and 3, including conformity to temperature range HPF (-25°C to +85°C) and full current rating usage at both 115 VAC and 250 VAC.

All filters in this catalog are UL recognized and CSA certified, and over 300 types are VDE approved under the following file numbers:

UL file no. E79109 CSA file no. LR48852 VDE file no. 11641-4730

Additionally, the DE series is SEV approved under file no. 85.12244.

#### 2) FCC and VDE Emission Compliance

Delta offers a wide range of filter characteristics, both in standard and custom form, to help you meet all applicable FCC and VDE conducted emission standards, including FCC and VDE class B requirements.

#### 3) Construction and Design

- Toroid cover for perfect insulation, with built-in spacers to maintain creepage distance between windings. (see Fig. 1 1)
- Precision balance of inductance between windings to prevent core saturation at full load. (2)
- Only capacitors that comply with VDE 0565-1 are used. (3)
- Low leakage current. (4)
- Both crimped and soldered connections. (5)
- Anti-rotation terminals to prevent open connections. (6)
- Corrosion-proof case. (7)

#### 4) Quality Control

- 100% tested for Hipot, leakage current and insertion loss before and after potting.
- Less than 200 parts-per-million (ppm) defect rate.
- Approved for Ship-to-Stock program (no incoming inspection) at major computer manufacturers' facilities.

### 5) Availability

Standard items are maintained in stock in Northern California for immediate shipment to OEM customers and distributors throughout North America.

#### 6) Price

Delta filters are very competitively priced due to mass production techniques and cost-saving designs.

#### 7) Custom Design and Testing Services

Delta has engineering labs and shield rooms in Taipei and Northern California. These facilities allow us to design and fabricate custom filters to meet special requirements not met by standard filters, and to test customers' equipment for compliance with FCC and VDE conducted emission requirements. (see Fig. 2)

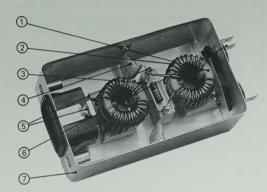


FIG. 1

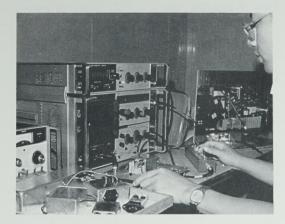


FIG. 2

## BRIEF CONCEPT OF EMI FILTER

#### EMI NOISE-ORIGIN AND CHARACTERISTICS

Recent decades have witnessed the rapid growth of computers, business machines, industrial controls, medical electronic equipment and many other devices that utilize digital techniques. Concurrent with this growth, the problems of Electro-Magnetic Interference (EMI) both into the equipment, causing equipment malfunction, and out of the equipment, causing interference to other equipment or RF communication, have become more severe. The frequency range of EMI noise are 10KHZ to 30MHZ by conduction through wires and 30MHZ to 1GHZ by radiation.

Conducted EMI noise consists of two modes:

- Common mode interference is EMI noise present on the line and neutral referenced to safety ground. Most noise problems are caused by common mode interference.
- Differential mode interference is EMI noise present on the phase line referenced to the neutral. Differential mode EMI tends to decline rapidly in the building wiring.

#### LEGAL REGULATION ON CONDUCTED EMI

#### **FCC**

In US the FCC has imposed legal regulations to control interference at its source. All computing devices, including peripherals, using digital techniques with a clock frequency greater than 10KHZ must comply with FCC regulations part 15 after Oct. 1983. The FCC has divided products into two basic categories:

#### Class A:

For computing devices marketed for use in a commercial, industrial or business environment. Class A requires verification which means that the equipment has been tested and comply, but the manufacturer retains the test data.

#### Class B:

For computing devices marketed for use in a residential environment. Class B requires certification which means that the test data has to be submitted to FCC for equipment approval. The commission may request a sample of the equipment for testing at the FCC laboratory.

#### **VDE**

Products intended for European markets should meet the requirements devised by VDE. VDE 0871 specification limits conducted emission for computing devices and other industrial, scientific and medical equipment to two levels:

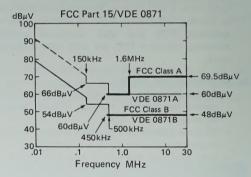
#### Class A:

The user has to apply for a special operating license issued by the FTZ (the German equivalent of FCC). If the equipment is moved from one location to another, the FTZ must be notified.

#### Class B:

If the equipment meets the B level, it then has general approval and no operating license is required. Most manufacturers attempt to meet Class B for marketing reasons.

Conducted EMI regulated by FCC part 15 and VDE 0871 are shown in the figure below:



#### ADEQUATE SELECTION OF EMI FILTER

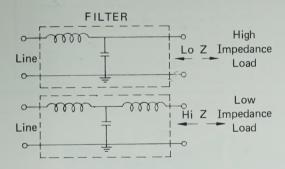
The effectiveness of noise attenuation is undoubtedly the primary concern for selecting an EMI filter. The capability in this aspect usually refers to the reading of insertion loss which is derived from following formula:

Insertion loss (dB) = 
$$20 \log \frac{V1}{V2}$$

wherein V1 = EMI voltage without filter V2 = EMI voltage with filter

Published insertion loss data assumes that power line and load have the same impedance and all such data are in practice generated from a 50 OHM - 50 OHM circuit. However, the said condition seldom exists in actual application. Therefore, insertion loss readings are not supposed to represent actual performance of noise suppression but a reference for comparison among different units or evaluation of product conformity in incoming inspection. To verify actual effectiveness in noise suppression, a filter has to be mounted in the equipment for conducted emission test in a shield room.

The effectiveness of noise attenuation depends heavily on source and load impedance. EMI filter function as "mismatching networks" between source and load impedance at high frequencies. The greater the mismatch, the more effective the filter will be in attenuating the interference. In most cases, the power line presents a low impedance. The filter line side should then present a high impedance. Equipment, on the other hand, can be either high or low impedance. High impedance equipment such as linear power supplies should use a filter with low impedance or a shunt capacitor at the load side to get a mismatch. Low impedance equipment such as switching power supplies, synchronous motors or shunt regulators should use a filter with a high impedance at the load side and should have a series inductor. The schematics below provide you an easy way for choosing the appropriate filter.



The following factors should also be taken into consideration in your selection process.

- Current and voltage rating
- Environment requirement such as temperature, shock, vibration and humidity.
- Physical dimension and terminal configuration.
- d. Availability
- 6 Cost effectiveness
- Safety approval

### DELTA PART NUMBERING SYSTEMS

#### MODELS OTHER THAN POWER ENTRY MODULE TYPES AND P.C. BOARD MOUNTING TYPES

G3H 03 DE current rating: AC rms

e.g.: 03 = 3 amp series: electrical circuit, see specific catalog pages

#### case style:

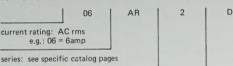
- A- small mounting ears 90 degrees from terminal sides
  - B- triagnle mounting ears 90 degrees from terminal sides
- C- triangle mounting ears on terminal
- IEC connector with mounting screws
- F- IFC connector package
- F- cylinder types
- G- two-hole mounting bars, 90 degrees from terminal sides

#### input/output connection:

- G = lugs; W = PVC wires; S = screws
- G5 = 5 lugs
- W5 = 5 wires
- G3H/G3M = 3 lugs horizontal
- G3V = 3 lugs vertical
- W3V = 3 wires vertical
- (For cylinder types, the 8th digit designates the outside diameter:  $S - \phi 38mm$ ;  $M - \phi 43mm$ ;  $L - \phi 50mm$ )

Special Design: A - with ground choke

#### B. POWER ENTRY MODULE TYPES

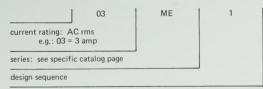


#### module construction:

- 1 IEC connector & fuse holder
- 2 IEC connector, fuse holder and power switch
- 3 IEC connector, fuse holder, power switch and voltage selector switch
- 4 IEC connector, fuse holder &
- voltage selector switch
- 5 For models other than CK, CR series; same construction as 4 but with voltage selector switch at front panel

- A with ground choke
- with double pole power switch for models other than CK, CR series

#### C. PCB MOUNTING TYPES



# AK SERIES POWER ENTRY MODULE EMI FILTERS

#### A. INTRODUCTION

 POWER MODULE INCORPORATES AN IEC CON-NECTOR, A FUSE HOLDER WITH OPTIONAL POWER ON/OFF SWITCH AND VOLTAGE SELECTOR SWITCH PLUS AN EMI FILTER ALL IN ONE SINGLE, EASY TO INSTALL UNIT.

2. DUE TO COMPACT DESIGN AND HIGH VOLUME PRO-DUCTION, THIS SERIES PRESENTS MAXIMUM FLEXI-BILITY, MINIMUM SPACE REQUIREMENT AND COST SAVINGS OVER INDIVIDUAL COMPONENTS WITH NO ASSEMBLY COST.

3. FUSE HOLDER DESIGNED FOR ONE IEC 5×20mm FUSE AND ONE SPARE FUSE. SAFETY INTERLOCK PREVENTS FUSE REMOVAL WITH LINE PLUG IN-SERTED.

 ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 51462).

## 20 (





#### B. SPECIFICATIONS

 MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC

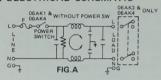
3. OPERATING FREQUENCY: 50-60Hz

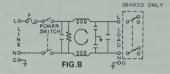
4. RATED VOLTAGE: 115/250VAC

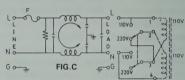
MINIMUM INSERTION LOSS IN dB COMMON MODE (L-G) IN 50 OHM SYSTEM

			FREQ	UENC	Y-MHz		
TYPE	.10	.15	.50	1.0	5.0	10	30
06AK	15	16	25	30	42	50	45
DIFFERENTIAL	MODE	(L-L)	IN 50	ОНМ	SYSTEM	VI	
06AK	6	6	30	48	40	40	40

### C. ELECTRICAL SCHEMATIC







FOR TRANSFORMERS WITH TWO SEPARATE WINDINGS

#### D. TYPES & RATED CURRENT

DELTA PART	NO.	06AK1	06AK2	06AK2D	06AK3	06AK3D	06AK4	06AK5	1.	SINGLE POLE: UL, CSA & CURRENT RATING: UL &
RATED CURRENT 115VAC		6A	6A	6A	6A	6A	6A	6A		VDE- ELECTRICAL LIFETIME: 50
RATED CORRENT	250VAC	6A	6A	4A	5A	4A	5A	. 6A		MAXIMUM INRUSH CURRE
IEC CONNEC	TOR	Δ	Δ	Δ	Δ	Δ	Δ	Δ	2.	CURRENT RATING: UL &  VDF-
FUSE HOLD	ER	Δ	Δ	Δ	Δ			ELECTRICAL LIFETIME: 10 MAXIMUM INRUSH CURR		
POWER SWIT	гсн	-	SP1	DP <sup>2</sup>	SP1	DP <sup>2</sup>	-	-	3.	VOLTAGE SELECTOR SW: CURRENT RATING: 10A/1
VOLTAGE SELEC	TOR SW	-	-	-	REAR <sup>3</sup>	REAR <sup>3</sup>	REAR <sup>3</sup>	FRONT <sup>4</sup>	4	VOLTAGE SELECTOR SW
ELECTRICAL SCH	HEMATIC	FIG.A	А	В	А	В	А	С		CURRENT RATING UL & VDE

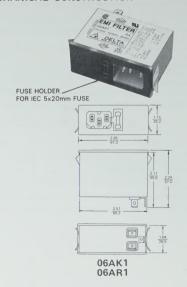
SINGLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA: 6A BOTH AT 125VAC & 250VAC VDE-6A/250VAC ELECTRICAL LIFETIME: 50,000 CYCLES

DOUBLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA - 6A/125VAC 4A/250VAC VDE: 4A/250VAC ELECTRICAL LIFETIME: 10.000 CYCLES

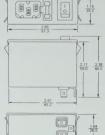
VOLTAGE SELECTOR SW: UL, CSA & VDE APPROVED CURRENT RATING: 10A/125VAC 5A/250VAC

VOLTAGE SELECTOR SW. UL, CSA & VDE APPROVED CURRENT RATING. UL & CSA 6A BOTH AT 125VAC & 250VAC VDE 6A 250VAC

#### E. MECHANICAL CONSTRUCTION







06AK2,06AK2D 06AR2,06AR2D



THE '0' '1' MARKING OF SINGLE & DOUBLE POLE POWER ON/OFF SWITCHES ARE REVERSED IN POSITION.

#### PERFORMANCE FILTERED POWER MODULES







#### B. SPECIFICATIONS

1. MAXIMUM LEAKAGE CURRENT EACH MAXIMUM LEAKAGE CURRENT EACH
LINE-TO-GROUND @ 115VAC 60Hz:0.25mA
@ 250VAC 50Hz:0.45mA
HIPOT RATING (ONE MINUTE)
LINE-TO-GROUND: 2250VDC
LINE-TO-LINE : 1450VDC

OPERATING FREQUENCY: 50-60Hz

RATED VOLTAGE: 115/250VAC MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

		FREC	QUENC	Y-MH	Z		
TYPE	.10	.15	.50	1.0	5.0	10	30
06AR	22	34	60	60	45	40	30
06AR2D, 3D	22	34	60	60	45	40	30
DIFFERENTIAL	MODE	(L-L)	IN 50	ОНМ	SYSTE	M	
06AR	5	8	30	65	55	50	45
06AR2D, 3D	-5	10	10	50	50	45	40

#### A. INTRODUCTION

 AR SERIES DESIGNED AS HIGH PERFORMANCE, TWO STAGE FILTER FOR LOW IMPEDANCE LOAD WITH BETTER NOISE ATTENUATION THAN AK SERIES IN LOW FREQUENCY APPLICATIONS SUCH

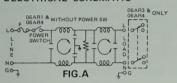
AS SWITCHING POWER SUPPLIES.

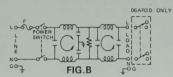
2. SAME POWER ENTRY MODULE AS AK SERIES IN-SAME POWER ENTRY MODULE AS AN SERIES IN-CORPORATES AN IEC CONNECTOR, A FUSE HOLDER WITH OPTIONAL POWER ON/OFF SWITCH AND VOLTAGE SELECTOR SWITCH PLUS AN EMI FILTER ALL IN ONE SINGLE, EASY TO INSTALL UNIT.

FUSE HOLDER DESIGNED FOR ONE IEC 5x20mm FUSE AND ONE SPARE FUSE. SAFETY INTERLOCK PREVENTS FUSE REMOVAL WITH LINE PLUG IN-SERTED.

4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO 51462)

#### C. ELECTRICAL SCHEMATIC

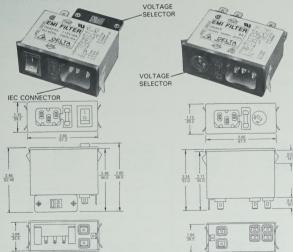




#### D. TYPES & RATED CURRENT

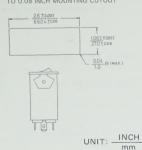
DELTA PART	NO.	06AR1	06AR2	06AR2D	06AR3	06AR3D	06AR4	1.	SINGLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA- 6A BOTH AT 125VAC & 250VAC			
BATED CURRENT	115VAC	6A	6A	6A	6A	6A	6A		VDE- 6A/250VAC ELECTRICAL LIFETIME: 50,000 CYCLES			
RATED CORRENT	250VAC	6A	6A	4A	5A	4A	5A		MAXIMUM INRUSH CURRENT: 24A			
IEC CONNECTOR		Δ	Δ	Δ	Δ	Δ	Δ	2.	DOUBLE POLE: UL. CSA & VDE APPROVED			
FUSE HOLD	ER	Δ	Δ .	Δ	Δ	Δ	Δ		CURRENT RATING: UL & CSA- 6A/125VAC 4A/250VAC VDE- 4A/250VAC			
POWER SWI	тсн		SP1	DP <sup>2</sup>	SP1	DP <sup>2</sup>	-		ELECTRICAL LIFETIME: 10,000 CYCLES MAXIMUM INRUSH CURRENT: 51A			
VOLTAGE SELECTOR SW		- ,	_	-	REAR <sup>3</sup>	REAR <sup>3</sup>	REAR <sup>3</sup>	3	VOLTAGE SELECTOR SW: UL, CSA & VDE APPROVED			
ELECTRICAL SCH	HEMATIC	FIG. A	А	В	CURRENT PATING: 104		CURRENT RATING: 10A/125VAC 5A/250VAC					

#### E. MECHANICAL CONSTRUCTION



06AK3,06AK3D 06AK4 (WITHOUT POWER SW) 06AR3,06AR3D 06AR4 (WITHOUT POWER SW)

SUGGESTED THICKNESS OF MOUNTING PANEL IS FROM 0-04 TO 0.08 INCH MOUNTING CUTOUT



THE '0' '1' MARKING OF SINGLE & DOUBLE POLE POWER ON/OFF SWITCHES ARE REVERSED IN POSITION

06AK5

# ENTRY MODULE EMI FILTERS

#### A. INTRODUCTION

1. POWER MODULE INCORPORATES AN IEC CON-NECTOR, DOUBLE FUSE (IEC 5x20MM) HOLDER, OPTIONAL VOLTAGE SELECTOR SWITCH AND OPTIONAL VOLTAGE SELECTOR SWITCH AND DOUBLE POLE POWER SWITCH, PLUS AN EMI FILTER ALL IN ONE-EASY-TO-INSTALL UNIT.

2. ADAPTS TO 100-120V OR 200-240V INPUT VOLTAGE SIMPLY BY REVERSING THE FUSE HOLDER.



(fuse holder)

3. EFFECTIVELY SUPPRESS EMI NOISE BOTH LINE-TO-LINE AND LINE-TO-GROUND, FOR GENERAL APPLICATIONS

4. COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBILITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.

5. SEPARATE CIRCUITS FOR EMI FILTER AND VOLTAGE SELECTOR FOR EASY INTEGRATION WITH EQUIP-MENT'S BUILT-IN FILTER.

6. PART NUMBERS ENDING IN "A" HAVE SPECIALLY DESIGNED GROUND CHOKES TO PROVIDE VERY EFFECTIVE SUPPRESSION OF HIGH FREQUENCY EMI NOISE.

 ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED AND VDE APPROVED (VDE CER-TIFICATE NO. 51430).





0565-3

#### **B. SPECIFICATIONS**

MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC

3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

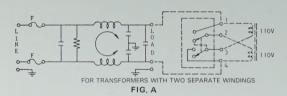
CURRENT			FREC	UENC	Y-MHz	2	
RATING	.10	.15	.50	1.0	5.0	10	30
3A	30	35	40	40	40	40	35
6A	25	30	40	40	40	40	35
10A*	10	15	25	30	40	45	35

#### DIFFERENTIAL MODE (L-L) IN 50 OHM SYSTEM

CURRENT			FREC	UENC	Y-MHz		
RATING	.10	.15	.50	1.0	5.0	10	30
3A	25	35	55	60	60	40	40
6A	15	25	50	60	50	45	40
10A*	6	6	40	55	50	40	40

\* APPROVED 6A/250VAC IN VDE

#### C. ELECTRICAL SCHEMATIC



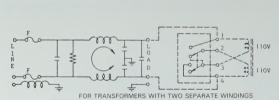
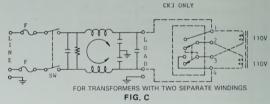


FIG. B



CK3A ONLY 1100 110V FOR TRANSFORMERS WITH TWO SEPARATE WINDINGS FIG. D

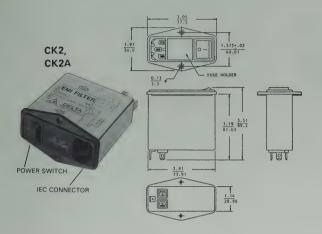
INDICATES EXTERNAL WIRING

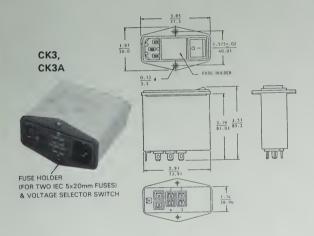
#### D. TYPES AND FEATURES

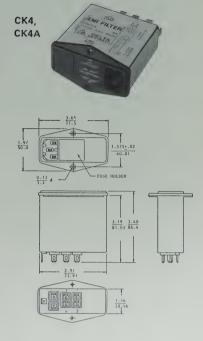
DELTA PART NO.	03CK2 06CK2 10CK2	03CK2A 06CK2A 10CK2A	03CK3 06CK3 10CK3	03CK3A 06CK3A 10CK3A	03CK4 06CK4 10CK4	03CK4A 06CK4A 10CK4A
DOUBLE FUSE HOLDER	Δ	Δ	Δ	Δ	Δ	Δ
VOLTAGE SELECTOR SWITCH			Δ	Δ	Δ	Δ
DOUBLE POLE POWER SWITCH*	Δ	Δ	Δ	Δ		
IEC CONNECTOR	Δ	Δ	Δ	Δ	Δ	Δ
ELECTRICAL SCHEMATIC	FIG.C	D	С	D	А	В

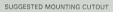
<sup>\*</sup> UL, CSA, VDE APPROVED, CURRENT RATING: UL/CSA-10A BOTH AT 125VAC AND 250VAC; VDE-10A/250VAC. ELECTRICAL LIFETIME: 10,000 CYCLES. MAXIMUM INRUSH CURRENT: 65A

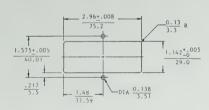
#### E. MECHANICAL CONSTRUCTION











UNIT: INCH mm







#### A. INTRODUCTION

 POWER MODULE INCORPORATES AN IEC CON-NECTOR, DOUBLE FUSE (IEC 5x20MM) HOLDER, OPTIONAL VOLTAGE SELECTOR SWITCH AND DOUBLE POLE POWER SWITCH, PLUS AN EMI FILTER
ALL IN ONE,EASY-TO-INSTALL UNIT.

2. ADAPTS TO 100-120V OR 200-240V INPUT VOLTAGE SIMPLY BY REVERSING THE FUSE HOLDER.



(fuse holder)

3. DOUBLE STAGE DESIGN DELIVERS HIGHER PER-FORMANCE ATTENUATION OVER CK SERIES FOR LOW FREQUENCY APPLICATIONS SUCH AS SWITCH-ING POWER SUPPLIES.

COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBILITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.

SEPARATE CIRCUITS FOR EMI FILTER AND VOLTAGE SELECTOR FOR EASY INTEGRATION WITH EQUIP-MENT'S BUILT-IN FILTER.

 PART NUMBERS ENDING IN "A" HAVE SPECIALLY DESIGNED GROUND CHOKES TO PROVIDE VERY EFFECTIVE SUPPRESSION OF HIGH FREQUENCY EMI NOISE

ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED AND VDE APPROVED (VDE CER-TIFICATE NO. 51430).

#### **B. SPECIFICATIONS**

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE 1450VDC

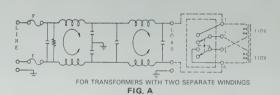
OPERATING FREQUENCY: 50-60Hz RATED VOLTAGE: 115/250VAC

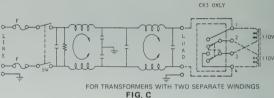
MINIMUM INSERTION LOSS IN dB

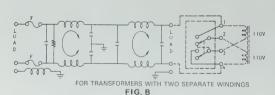
#### COMMON MODE (L-G) IN 50 OHM SYSTEM

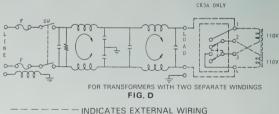
CURRENT			FREC	QUENC	Y-MH2	Z		
RATING	.10	.15	.50	1.0	5.0	10	30	
3A	45	50	60	55	45	45	32	
6A	25	40	55	55	45	40	32	
DIFFERENTIAL MODE (L-L) IN 50 OHM SYSTEM								
CURRENT			FREC	UENC	Y-MHz	2		
RATING	.10	.15	.50	1.0	5.0	10	30	
3A	25	30	55	65	65	50	45	
6A	6	12	50	60	60	55	45	

#### C. ELECTRICAL SCHEMATIC







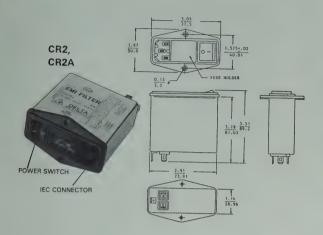


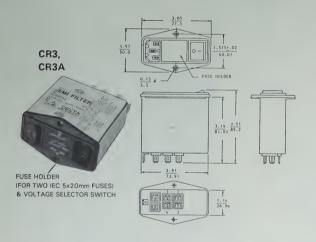
#### D. TYPES AND FEATURES

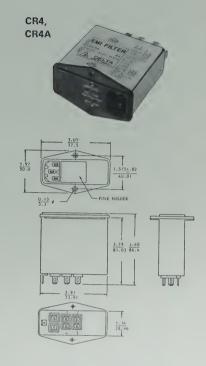
DELTA PART NO.	03CR2 06CR2	03CR2A 06CR2A	03CR3 06CR3	03CR3A 06CR3A	03CR4 06CR4	03CR4A 06CR4A
DOUBLE FUSE HOLDER	Δ	Δ	Δ	Δ	Δ	Δ
VOLTAGE SELECTOR SWITCH			Δ	Δ	Δ	Δ
DOUBLE POLE POWER SWITCH	<b>+</b> * △	Δ	Δ	Δ		
IEC CONNECTOR	Δ	Δ	Δ	Δ	Δ	Δ
ELECTRICAL SCHEMATIC	FIG.C	D	С	D	А	В

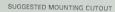
<sup>\*</sup> UL, CSA, VDE APPROVED, CURRENT RATING: UL/CSA-10A BOTH AT 125VAC AND 250VAC; VDE-10A/250VAC. ELECTRICAL LIFETIME: 10,000 CYCLES. MAXIMUM INRUSH CURRENT: 65A

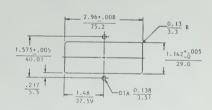
### E. MECHANICAL CONSTRUCTION











UNIT: INCH

# CONNECTOR FILTERS

#### A. INTRODUCTION

A FUSE HOLDER PROVIDING EFFECTIVE EMI
SUPPRESSION OF BOTH COMMON AND DIFFERENTIAL MODE NOISE

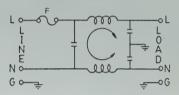
FUSE HOLDER DESIGNED FOR ONE IEC 5x20mm FUSE AND ONE SPARE FUSE. SAFETY INTERLOCK PREVENTS FUSE REMOVAL WITH LINE PLUG

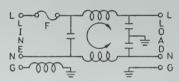
INSERTED.

04BEEG3SA DESIGNED WITH A GROUND CHOKE PROVIDING MOST EFFECTIVE EMI SUPPRESSION FOR HIGH FREQUENCY NOISE (RANGE 5 MHZ – 25MHZ) FROM EITHER LOGIC BOARD OR KEYBOARD 3. 04BEEG3SA TO POWER LINE

4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 39431).

#### C. ELECTRICAL SCHEMATIC





04BEEG3SA ONLY

#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DIM	ENSIO	NS IN	INCHES	/mm
PART NO.	RATING	01165	Α	В	С	D	Е
02BEEG3H	2A	EG3H	2.54	2.40	1.98	1.417	1.73
UZBELG311	2A	Edsti	64.5	61.0	50.3	36.0	43.9
04BEEG3H		EG3H -	2.54	2.40	1.98	1.417	1.73
048220311			64.5	61.0	50.3	36.0	43.9
04BEEG3S	4A		2.23	2.08	1.63	1.417	1.73
04022033	70	2000	56.7	52.8	41.3	36.0	43.9
04BEEG3SA		EG3SA	2.23	2.08	1.63	1.417	1.73
OFFEEGOOA		LOSOA	56.7	52.8	41.3	36.0	43.9
06BEEG3H	6A	EG3H	2.54	2.40	1.98	1.417	1.73
0000000011		20011	64.5	61.0	50.3	36.0	43.9







## **B. SPECIFICATIONS**

MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC

OPERATING FREQUENCY: 50-60Hz RATED VOLTAGE: 115/250VAC MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT	.10	.15	FREG	2UENC 1.0	Y-MH: 5.0	10	30
2A 4A, 4A(S) 4A(SA) 6A	20 23 10 18	25 26 12 24	35 35 20 30	40 40 30 35	55 50 42 50	55 55 45 55	55 50 50 45
DIFFERENTIA	AL MOD	E (L-L)	IN 50	ОНМ	SYSTE	EM	
2A	4	6	15	25	40	45	45

12 18 40 55 50

15 25 40 45 45

12 30 40 40

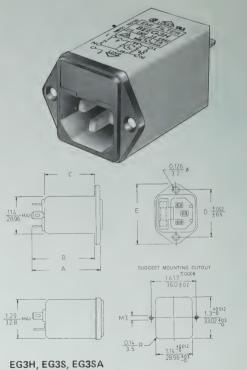
#### E. MECHANICAL CONSTRUCTION

0

4A(S)

6A

4A(SA)



INCH UNIT: mm

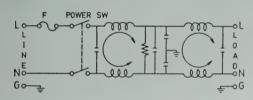
#### PERFORMANCE POWER MODULES FILTERS

#### A. INTRODUCTION

- BR SERIES DESIGNED AS HIGH PERFORMANCE, TWO STAGE FILTER PROVIDING EXCELLENT NOISE ATTENUATION FOR LOW IMPEDANCE LOAD BOTH IN COMMON AND DIFFERENTIAL MODES IN LOW FREQUENCY APPLICATIONS SUCH AS SWITCHING
- POWER SUPPLIES.

  2. INCORPORATES AN IEC CONNECTOR, A FUSE HOLDER AND A DOUBLE POLE POWER ON/OFF SWITCH.
- DOUBLE POLE POWER SWITCHES ARE UL, CSA, VDE APPROVED RATED 10 AMP BOTH AT 125V AND 250V
- 4. FUSE HOLDER DESIGNED FOR ONE IEC 5x20mm FUSE AND ONE SPARE FUSE. SAFETY INTERLOCK PREVENTS FUSE REMOVAL WITH LINE PLUG INSERTED.
- 5. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 39428).

#### C. ELECTRICAL SCHEMATIC



### D. MECHANICAL CONSTRUCTION







## B. SPECIFICATIONS

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0,4mA @ 250VAC 50Hz:0,7mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC
- 5. RATED CURRENT 03BRDW3: 3A 05BRDW3: 5A
- DOUBLE POLE POWER SWITCH

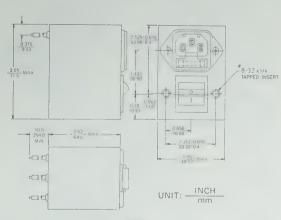
CURRENT RATING: UL & CSA - 10A BOTH AT 125VAC & 250VAC VDE  $\binom{+}{S}$  D N S - 10A/250VAC

10,000 CYCLES MINIMUM AT RATED LOAD MAXIMUM INRUSH: 100A FOR 10,000 CYCLES PER CEE #24. 7. MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

				FRE	QUEN	ICY-I	ИНz		
TYPE	.01	.05	.10	.15	.50	1.0	5.0	10.0	30,0
03BRDW3 05BRDW3*	15	30	40	50	60	55	45	40	30
DIFFERENTI	AL N	10DE	(L-L	) IN	50 O	нм s	SYST	EM	
03BRDW3 05BRDW3*	3	6	35	45	60	60	55	50	40

<sup>\*</sup> APPROVED 3A/250VAC IN VDE



DW3

# IEC CONNECTOR FILTERS

#### A. INTRODUCTION

1. DESIGNED AS A GENERAL PURPOSE FILTER WITH AN IEC CONNECTOR PROVIDING EFFECTIVE EMI SUPPRESSION OF LINE-TO-GROUND NOISE. 2. COMPACT AND RELIABLE AT LOW COST. 3. EGGM TYPE-FEATURES SHORTER MOUNTING DEPTH

THAN EG3H TYPE (EG3M TYPE-46mm; EG3H TYPE-

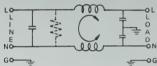
03DEEG3HA AND 03DEEG3VA SPECIALLY DESIGNED WITH A GROUND CHOKE PROVIDING MOST EFFEC-TIVE EMI SUPPRESSION FOR HIGH FREQUENCY NOISE (RANGED 5 MHZ – 25 MHZ) FROM EITHER LOGIC BOARD OR KEYBOARD TO POWER LINE.

5. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NOS. 35929, 39428, 51405, 51419 & 55411). MOST PART NUMBERS ARE SEV APPROVED.

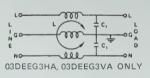
GENERATION DE 6 SECOND SERIES INCLUDING (W3E) WITH IDENTICAL PERFORMANCE; (W3B) WITH BETTER PERFORMANCE; DEEG3E DEEG38 (W3R) SPECIALLY DESIGNED FOR SUP-DEEG3R PRESSION HIGH FREQUENCY OF NOISE AND DEEGGL PROVIDES EFFECTIVE SUPPRESSION OF LOW FREQUENCY NOISE ARE AVAILABLE AT ECONOMICAL COST DUE TO FULLY AUTOMATIC ASSEMBLY

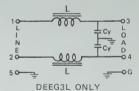
7. BLEEDER RESISTOR IS ADDED FOR DEEG3E, DEEG3B, GEEG3E NUMBERS WITH SUFFIX "-R".

#### C. ELECTRICAL SCHEMATIC



... BLEEDER RESISTOR FOR PART NUMBERS WITH SUFFIX "-R"





B SPECIFICATIONS 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA, (0.2mA FOR EG3L) @ 250VAC 50Hz:0.45mA,

(0.4mA FOR EG3L)

HPF 0565-3

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE 1450 VDC

3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FREQU	JENCY	-MHz	
RATING	.15	.50	1.0	5.0	10	30
1A(M.E.)	23	35	40	48	55	50
3A(M.E.)	18	28	32	52	55	50
6A(M.E.)	12	21	26	42	50	44
1A(V)	22	30	35	46	55	50
3A(V)	15	25	30	50	55	55
6A(V)	8	20	25	41	48	55
3A(HA.VA)	0	1	3	14	21	41
1A(B)	28	40	45	45	45	45
3A(B)	22	30	35	45	45	45
6A(B)	12	20	25	40	45	45
10A(B)	4	13	18	30	38	45
1A(R)	7	15	20	40	50	55
3A(R)	5	10	18	35	45	50
6A(R)	2	5	10	30	40	50
10A(R)	0	1	2	18	28	40
1A(L)	3	10	15	32	30	20
3A(L)	0	2	5	25	25	20
6A(L)	0	0	1	10	15	25
DIFFERENTIAL	MODE (L	L) IN	50 OF	IM SY	STEM	
1A(L)	7	15	20	32	27	20
3A(L)	0	6	10	25	25	20
6A(L)	0	0	2	10	15	25

#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE				ICHES/mr	
PART NO.	RATING	31166	A	В	С	D	E
01DEEG3M		EG3M	1.95	1.81	1.38	1,575	1.99
OTDEEGSWI		EGSINI	49.5	46.0	35.1	40.01	50.5
01DEEG3V		EG3V	1.55	1.38		1,575	1.99
UIDEEGSV		EG3 V	39.4	35,1	-	40.01	50.5
01DEEW3V		EW3 V	1.55	1.38	-	1,575	1.99
UIDEEW3V		EW3 V	39.4	35.1	-	40.01	50.5
01DEEG3E		E G3E	2.10	1.95	1.52	1.575	2.05
UIDEEGSE		EGSE	53,34	49,53	38,61	40.01	52.07
01DEFG3B		EG3B	2.10	1.95	1.52	1.575	2.05
01055036	1A	E 03B	53.34	49.53	38,61	40.01	52.07
01DEEG3R	TA I	EG3R	2.10	1.95	1.52	1.575	2.05
OIDEEGSA		Edan	53,34	49.53	38.61	40.01	52.07
01DEEW3E		EW3E	1.67	1.52	1,52	1,575	2.05
OIDEEW3E		EWSE	42.42	38.61	38.61	40.01	52.07
01DEEW3B		EW3B	1.67	1.52	1,52	1,575	2.05
OIDEEWSB		EAA2D	42.42	38.61	38.61	40.01	52.07
01DEEW3R		EW3B	1.67	1.52	1,52	1,575	2 05
O I DEEWSR		EWSH	42 42	38.61	38 61	40 01	52.07
01DEEG3L		EG3L	2 10	1 95	1.52	1 575	2.05
OIDEEG3L		EUSL	53.34	49.53	38.61	40.01	52.07

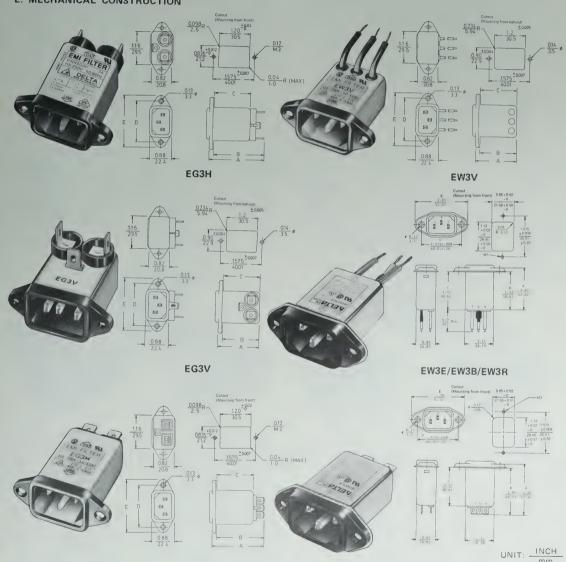
DELTA	CURRENT	STYLE	C	IMENSIO	NS IN IN	ICHES/mn	
DART NO.	RATING	SITLE	A	В	С	D	Ε
		50014	1.95	1,81	1,38	1.575	1.99
03DEEG3M		EG3M	49.5	46,0	35.1	40.01	50.5
02022021	1	EG3V	1.55	1.38	_	1.575	1.99
03DEEG3V		EGSV	39.4	35,1	-	40.01	50.5
00055401		EW3V	1.55	1.38	-	1,575	1.99
03DEEW3V		EW3 V	39.4	35.1	_	40.01	50.5
0005500114		EG3H	2.08	1.93	1.38	1,575	1,99
03DEEG3HA		EGSH	52.8	49.0	35.1	40.01	50.5
000550014	_	EG3V	1.53	1.38	_	1,575	1.99
03DEEG3VA	3A	EGSV	38.9	35,1	_	40.01	50.5
00055505	7 34	EG3E	2.10	1.95	1.52	1.575	2.05
03DEEG3E		EGSE	53,34	49.53	38,61	40.01	52.07
02055020	1	EG3B	2.10	1.95	1.52	1,575	2.05
03DEEG3B		EGSB	53,34	49.53	38.61	40.01	52,07
03DEEG3R		EG3R	2.10	1.95	1.52	1,575	2.05
USDEEGSR		Edan	53.34	49.53	38.61	40.01	52.07
03DEEW3E	1	EW3E	1.67	1.52	1.52	1.575	2.05
USDEEWSE		EVVSE	42 42	38,61	38.61	40.01	52.07
03DEEW3B		EW3B	1.67	1,52	1.52	1.575	2.05
OSDEEWSB		EANSB	42.42	38.61	38.61	40.01	52,07

DELTA	CURRENT	STYLE		IMENSIC	NS IN IN	ICHES/mr	n
PART NO.	RATING	STILE	A	В	С	D	E
03DEFW3B		EW3R	1.67	1.52	1.52	1.575	2.05
OSDEEWSH	3A	EWSA	42.42	38.61	38.61	40.01	52.07
03DEEG3L	3 A	EG3L	2.10	1.95	1.52	1,575	2.05
03DEEG3L		EGSL	53.34	49.53	38.61	40.01	52,07
06DEEG3M		EG3M	1.95	1.81	1.38	1.575	1.99
ODDEEGSW		EGSIM	49.5	46.0	35,1	40.01	50.5
00000000		EG3V	1,55	1,38	-	1,575	1.99
06DEEG3V		E G3 V	39.4	35.1	-	40.01	50.5
	7 [	FILLER	1,55	1,38	_	1.575	1.99
06DEEW3V	6A	EW3V	39.4	35.1	_	40.01	50.5
00055005		EG3E	2.10	1.95	1.52	1,575	2.05
06DEEG3E		E G3E	53.34	49.53	38.61	40.01	52.07
		FOOD	2.10	1,95	1.52	1.575	2.05
OPDEE G3B	D6DEE G3B	EG3B	53,34	49,53	38,61	40.01	52.07

DELTA	CURRENT	STYLE		IMENSIO	NS IN IN	ICHES/mr	n
PART NO.	RATING	SIYLE	A	В	C	D	E
06DEEG3B		EG3R	2.10	1.95	1,52	1.575	2.05
OODEEGSA		EGSH	53.34	49.53	38.61	40.01	52.07
06DEEW3E		EW3E	1.67	1.52	1,52	1,575	2.05
OODEEWSE	}	EVV3E	42.42	38.61	38.61	40.01	52.07
06DEEW3B	6A	FINIO	1.67	1,52	1.52	1 575	2.05
OODEEMSD	DA	EW3B	42.42	38.61	38.61	40.01	52.07
06DEEW3R		EW3R	1.67	1,52	1.52	1,575	2.05
OODELWIN		EWSH	42.42	38.61	38.61	40.01	52.07
06DEEG3L		EG3L	2.10	1.95	1.52	1,575	2.05
OODLEGGE		EGSE	53.34	49.53	38.61	40.01	52.07
10DEEG3B		EG3B	2.10	1,95	1,52	1,575	2.05
10055638	10A	E 038	53,34	49.53	38.61	40.01	52.0
10DEEG3R	104	EG3R	2.10	1.95	1.52	1.575	2.05
TODEEGSH		EGSH	53.34	49.53	38,61	40,01	52.0

EG3E/EG3B/EG3R/EG3L

## E. MECHANICAL CONSTRUCTION



EG3M

## SERIES PERFORMANCE IEC CONNECTOR FILTERS

#### A. INTRODUCTION

- 1. A HIGH PERFORMANCE GENERAL PURPOSE FILTER WITH AN IEC CONNECTOR PROVIDING MORE EF-FECTIVE EMI SUPPRESSION OF LINE-TO-LINE AND
- LUW FREQUENCY LINE-TO-GROUND NOISE.

  2. TO REDUCE POWER SUPPLY CONDUCTED NOISE TO COMPLY WITH VDE AND FCC REQUIREMENTS.

  3. COMPACT AND RELIABLE AT LOW COST.

  4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 39428 & 51419).

  5. SECOND. GENERATION.
- SECOND GENERATION GE SERIES WITH IDENTICAL
- OR BETTER PERFORMANCE AT MORE ECONOMICAL
  COST DUE TO AUTOMATIC ASSEMBLY.

  6. BLEEDER RESISTORS CAN BE ADDED FOR "GSE"
  OR "W3E" TYPES WITH SUFFIX "-R" ON PART NUMBERS.

#### C. ELECTRICAL SCHEMATIC



... BLEEDER REGISTOR FOR PART NUMBERS WITH SUFFIX "-R"

#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE		DIMENSIC	NS IN INC	CHES/mm	
PART NO.	RATING	31166	A	8	C	D	E
0.055000		FG3H	1.95	1.81	1.38	1.575	1.99
01GEEG3H		EGSH	49.5	46.0	35.1	40.01	50.5
01GEEW3V	7 1	EW3V	1.55	1.38		1.575	1.99
UIGEEWSV	1A	EAASA	39.4	35.1	-	40.01	50.5
******	7 14	EG3E	2.10	1.95	1.52	1.575	2.0
01GEEG3E		EGSE	53.34	49.53	38.61	40,01	52.0
01GEEW3E	1 1	FW3F	1.67	1.52	1.52	1.575	2.0
UIGEEWSE		EAASE	42.42	38.61	38.61	40.01	52.0
		EG3H	1.95	1.81	1.38	1.575	1.9
03GEEG3H		EGSH	49.5	46.0	35.1	40.01	50.
03GEEW3V	3A	FW3V	1.55	1.38	-	1.575	1.9
U3GEEW3V	JA	EWSV	39.4	35.1	-	40.01	50.
00000000	1	EG3E	2.10	1.95	1.52	1.575	2.0
03GEEG3E	1	EGSE	53.34	49.53	38.61	40.01	52.0





#### **B. SPECIFICATIONS**

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45 mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC
- 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FR	EQU	ENC	/-MH	Z	
RATING	.05	.10	.15	.50	1.0	5,0	10	30
1A(H)	15	21	26	36	44	54	55	55
3A(H)	14	20	24	30	38	50	55	55
6A(H)	6	11	15	25	32	45	50	60
1A(V)	11	20	24	35	42	50	55	55
3A(V)	9	16	20	29	36	48	52	55
6A(V)	5	10	14	23	30	42	45	50
1A(E)	18	25	28	35	38	38	40	40
3A(E)	12	18	20	25	30	38	40	40
6A(E)	6	10	12	18	24	35	40	40

DELTA	CURRENT	STYLE		DIMENSIC	INS IN INC	CHES/mm	
PART NO.	RATING	SITLE	A	В	С	D	E
		EW3E	1.67	1.52	1.52	1.575	2.05
03GEEW3E	3A	EVV3E	42.42	38.61	38.61	40.01	52.07
		EG3H	1 95	1.81	1.38	1.575	1.99
06GEEG3H		EGSH	49.5	46.0	35.1	40.01	50.5
	1 1	EW3V	1.55	1.38	-	1.575	1.99
06GEEW3V		EW3V	39.4	35.1	-	40.01	50.0
	- 6A	EG3E	2 10	1.95	1.52	1,575	2.05
06GEEG3E		EGSE	53.34	49.53	38.61	40.01	52.07
	i i	EW3E	1.67	1 52	1.52	1.575	2.05
06GEEW3E	6GEEW3E	EWSE	42.42	38.61	38.61	40.01	52.07

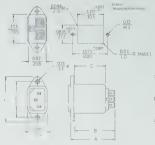
#### E. MECHANICAL CONSTRUCTION



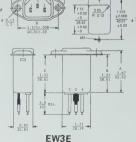


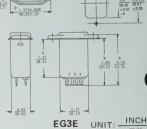






8





EG3H

EW3V

15

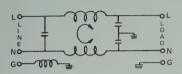
## PERFORMANCE IEC CONNECTOR FILTERS

#### A, INTRODUCTION

- 1. A HIGH PERFORMANCE GENERAL PURPOSE FILTER WITH AN IEC CONNECTOR PROVIDING MORE EFFECTIVE EMI SUPPRESSION OF LINE TO LINE AND LOW FREQUENCY LINE-TO-GROUND NOISE.
- NOISE.
  TO REDUCE POWER SUPPLY CONDUCTED NOISE
  TO COMPLY WITH VDE AND FCC REQUIREMENTS.
  COMPACT AND RELIABLE AT LOW COST.
  SPECIALLY DESIGNED WITH A GROUND CHOKE
  PROVIDING MOST EFFECTIVE EMI SUPPRESSION
  FOR HIGH FREQUENCY NOISE (RANGED 5 MHZ 25 MHZ) FROM EITHER LOGIC BOARD OR KEYBOARD
- TO POWER LINE.

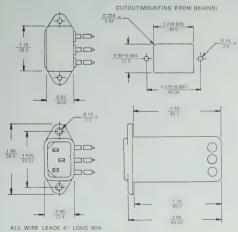
  5. ALL PART NUMBERS ARE UL RECOGNIZED, CSA
  CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO 46873)

### C. ELECTRICAL SCHEMATIC



#### D. MECHANICAL CONSTRUCTION





03KEEW3V



#### **B. SPECIFICATIONS**

03KEEG3HA

- MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND@115VAC 60Hz: 0.25mA @250VAC 50Hz: 0.45mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

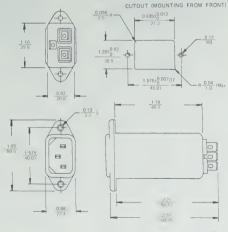
### COMMON MODE (L-G) IN 50 OHM SYSTEM

1 3

			FRI	OUE	NCY-N	л Нz		
TYPE	.05	.10	.15	.50	1.0	5.0	10	30
03KEEW3V 03KEEG3HA	14 14	18 18	20 20	25 25	32 32	50 50	55 55	52 52
DIFFERENTIAL								52
03KEEW3V	1	3	5	14	18	50	55	50

14 18 50 50 50





03KEEG3HA

UNIT: INCH

## **SERIES**

TWO STAGE HIGH PERFORMANCE IEC CONNECTOR FILTERS

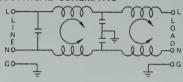
#### A. INTRODUCTION

- A HIGH PERFORMANCE, TWO STAGE FILTER WITH AN IEC CONNECTOR PROVIDING MOST EF-FECTIVE EMI SUPPRESSION OF LINE-TO-LINE AND

- LOW FREQUENCY LINE-TO-GROUND NOISE.

  TO REDUCE POWER SUPPLY 'CONDUCTED NOISE TO COMPLY WITH VDE AND FCC REQUIREMENTS.
  COMPACT AND RELIABLE AT MODERATE COST.
  ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NOS. 49968 & 39428).

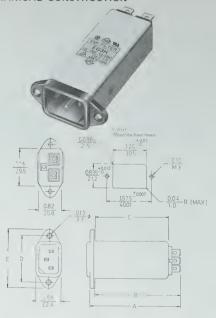
#### C. ELECTRICAL SCHEMATIC



#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DIMENSIONS IN INCHES/mm						
PART NO.	RATING	STILE	Α	В	С	D	E		
01SEEG3H		EG3H	3,51	3,35	2.92	1.575	1.99		
013224311	1A	EGSH	89.2	85.1	74.2	40.01	50.5		
01SEEG3V		EG3V	3.08	2.92	-	1.575	1.99		
01322037		EGSV	78.2	74.2	-	40.01	50.5		
03SEEG3H	3A	EG3H	3.51	3.35	2.92	1.575	1.99		
000220011		EG3H	<b>8</b> 9.2	85.1	74.2	40.01	50.5		

#### E. MECHANICAL CONSTRUCTION



EG3H







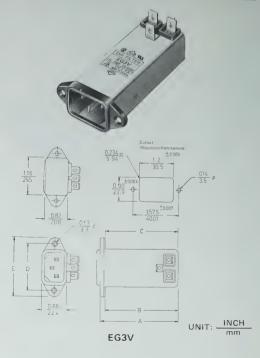
#### **B. SPECIFICATIONS**

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0,25mA @ 250VAC 50Hz:0,45mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC
- 3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FREC	QUEN	ICY-I	ИНz		
RATING	.05	.10	.15	.50	1.0	5.0	10	30
1A	18	33	45	66	70	70	65	60
3A	13	30	42	65	70	70	65	55
6A	11	12	25	50	60	70	65	55
DIFFERENTIAL M	ODE (	L-L)	IN 50	ОН	M SY	STE	M	
1A	3	6	9	22	33	60	70	60
3A	2	5	8	20	30	60	70	60
6A	1	4	6	15	22	50	60	60

DELTA	CURRENT	STYLE	DIMENSIONS IN INCHES/mm							
PART NO.	RATING		Α	В	С	D	E			
03SEEG3V	3A	EG3V	3,08	2.92	_	1.575	1.99			
03322034	35EEG3V 3A	LGSV	78.2	74.2	-	40.01	50.5			
06SEEG3H		ECOL	EG3H	3.51	3.35	2.92	1,575	1.99		
00051	6A	LGSH	89.2	85,1	74.2	40.01	50.5			
06SEEG3V	1	EG3V	3.04	2.92	<u> </u>	1.575	1.99			
00022004		2000	77.2	74.2	_	40.01	50.5			



## FILTERS FOR UL 544 HEALTH CARE EQUIPMENT

#### A. INTRODUCTION

1. PROVIDES VERY LOW LEAKAGE CURRENT MEETING MEDICAL AND DENTAL EQUIPMENT REQUIREMENTS OF UL 544

OF UL 544.

UL 544 IS BROKEN DOWN INTO TWO CATEGORIES:

A. PATIENT CARE EQUIPMENT: "EQUIPMENT THAT IS INTENDED TO BE USED IN THE PATIENT'S VICINITY IN A HEALTH CARE FACILITY. IT INCLUDES EQUIPMENT FOR USE ON OR WITH, OR LIKELY TO BE CONTACTED BY, A PATIENT IN THE COURSE OF HIS TREATMENT." THIS EQUIPMENT CAN HAVE A MAXIMUM LEAKAGE CURRENT OF 100 MICRO AMPS AT 115 VAC, 60 HZ.

B. NONPATIENT EQUIPMENT: "EQUIPMENT PRIMARILY FOR USE IN A HEALTH CARE FACILITY THAT IS INTENDED FOR USE IN OTHER THAN THE PATIENT VICINITY." THIS EQUIPMENT CAN HAVE A MAXIMUM LEAKAGE CURRENT OF 500 MICRO AMPS AT 115 VAC, 60 HZ.

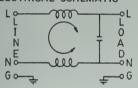
ALL PART NUMBERS (06DHAG5, 06DHEG3H AND

AMPS AT 115 VAC, 60 HZ.

3. ALL PART NUMBERS (06DHAG5, 06DHEG3H AND 06DHEG3V) HAVE 2 MICRO AMPS MAXIMUM LEAKAGE CURRENT AT 115 VAC, 60 HZ WHICH FULFILLS CATEGORY A ABOVE FOR PATIENT CARE EQUIPMENT. HOWEVER, 06DHEG3H AND 06DHEG3V ARE SUGGESTED TO BE USED FOR NONPATIENT EQUIPMENT AS THEY ARE PLUG-IN DEVICES.

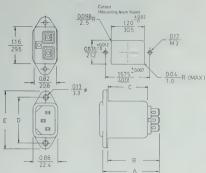
4. ALL PART NUMBERS ARE UL 1283 AND 544 RECOGNIZED, CSA C22.2 NO. 0 AND NO. 8 CERTIFIED, AND VDE APPROVED (VDE CERTIFICATE NO. 41847)

#### C. ELECTRICAL SCHEMATIC



#### E. MECHANICAL CONSTRUCTION





EG3H







#### B. SPECIFICATIONS

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz: 2µA @ 250VAC 50Hz: 5µA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC
- OPERATING FREQUENCY: 50-60Hz
- RATED VOLTAGE: 115/250VAC
- MINIMUM INSERTION LOSS IN dB

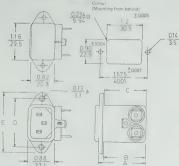
COMMON MODE (L-G) IN 50 OHM SYSTEM

TYPE			FI	REQUE	NCY-N	ЛHz	
		.15	.50	1.0	5.0	10.0	30.0
06DHEG3H		12	20	20	24	24	18
06DHEG3V		12 .	15	18	24	24	20
06DHAG5	1	10	15	18	20	20	18

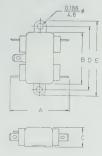
#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DIMENSIONS IN INCHES/mm								
PART NO.	RATING	SHILE	Α	В	С	D	Е				
06DHEG3H		EG3H	1.95	1.81	1.38	1.575	1.99				
OOD//IEGO//		EGSH	49.5	46.0	35.1	40.01	50.5				
06DHEG3V	6A	EG3V	1.53	1.38	1.38	1.575	1.99				
OODIIE GOV	0.7	EGSV	38.9	35.1	35.1	40.01	50.5				
06DHAG5		405	2.13	1.75	0.63	2.13	2.54				
OODIIAGS		AG5	54.1	44.5	16.0	54.1	64.5				









EG3V

AG5

## DB SERIES

#### GENERAL PURPOSE COMMON MODE FILTERS

#### A. INTRODUCTION

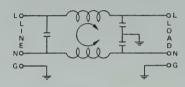
 DESIGNED AS A GENERAL PURPOSE FILTER PRO-VIDING EFFECTIVE EMI SUPPRESSION OF LINE-TO-GROUND NOISE WHICH CAN BE USED IN A WIDE VARIETY OF ELECTRICAL AND ELECTRONIC EQUIPMENT.

2. IN SMALL SIZE AT LOWEST COST

 OFFERS A BROAD SELECTION OF MECHANICAL CON-FIGURATIONS AND CURRENT RATINGS.

4. ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED, MOST PART NUMBERS ARE VDE APPROVED (VDE CERTIFICATE NO. 39430).

#### C. ELECTRICAL SCHEMATIC



#### D. SERIES DIMENSIONS

DELTA	CURRENT	071/15	DIF	MENSIO	NS IN II	NCHES	/mm
PART NO.	RATING	STYLE	А	В	С	D	Е
0200000		AG5	2.13	1.75	0.63	2.13	2.54
02DBAG5	2A	AGS	54.1	44.5	16.0	54 1	64.5
02DBAW5	ZA	AW5	0.94	1.75	0.63	2.13	2 54
UZDBAWS		AVVS	23.9	44.5	16.0	54.1	64.5
0200000		AG5	2.52	1.75	0.75	2.13	2 50
03DBAG5	3A	AGS	64.0	44.5	19.0	54.1	63 5
03DBAW5	SA	AW5	1.31	1.75	0.75	2.13	2 50
USUBAWS		AVVS	33.3	44.5	19.0	54.1	63.5
OFDRACE		AG5	2 52	1,75	0.75	2.13	2.50
05DBAG5	5.A	AGS	64 0	44 5	190	54 1	63.5
05DBAW5	32	AW5	1,31	1 75	0 75	2 13	2.50
OSDBAWS			33 3	44.5	19.0	54.1	63.5





#### B. SPECIFICATIONS

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC

3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC

5. MINIMUM INSERTION LOSS IN dB

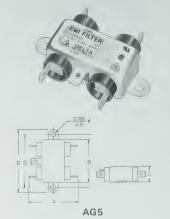
#### COMMON MODE (L-G) IN 50 OHM SYSTEM

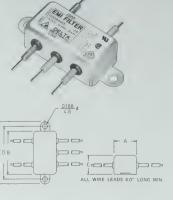
CURRENT			FREQU	IENCY.	-MHz	
RATING	.15	.50	1.0	5.0	10	30
2, 3, 5A	20	30	38	50	50	45
10A	20	30	35	50	50	45
20A	13	20	25	40	45	48
DIFFERENTIA	L MODE (I	L-L) IN	50 OF	IM SY	STEM	
2, 3, 5A	6	15	20	40	50	45
10A	6	15	20	44	45	45
20A	15	24	28	50	48	48

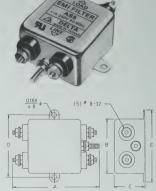
DELTA	CURRENT	STYLE	DIMENSIONS IN INCHES/mm							
PART NO.	RATING	SITLE	Α	В	С	D	Ε			
10DBAG5		AG5	2.52	1.75	1.16	2.13	2.50			
1000000		703	64.0	44.5	29.5	54.1	63.5			
10DBAW5	10A	AW5	1,31	1.75	1.16	2.13	2.50			
TODDAWS	100		33.3	44.5	29.5	54.1	63.5			
10DBAS5			2.64	1.75	1.16	2.13	2.50			
TODBASS		A35	67.1	44.5	29.5	54.1	63.5			
20DBAG5		A G 5	3,23	2.00	1.13	2.38	2.75			
2000000	20A		82.0	50.8	28.7	60.5	69.9			
20DBAS5	204		3,35	2.00	1,13	2.38	2.75			
2000000		733	85.1	50.8	28.7	60.5	69.9			

<sup>△</sup> APPROVED TO VDE 0565 PART 3 OF 16A

#### E. MECHANICAL CONSTRUCTION







UNIT: INCH

AW5

# GENERAL PURPOSE FILTERS

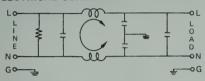
#### A. INTRODUCTION

EFFECTIVELY CONTROL EMI SUPPRESSION OF BOTH LINE-TO-LINE AND LINE-TO-GROUND NOISE.

2. WELL SUITED FOR USE IN COMPUTERS, PERIPHERAL EQUIPMENT AND INDUSTRIAL APPLICATIONS WHERE PULSE, CONTINUOUS AND/OR INTERMITTENT EMI NOISE IS PRESENT.

3. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 49922).

#### C. ELECTRICAL SCHEMATIC

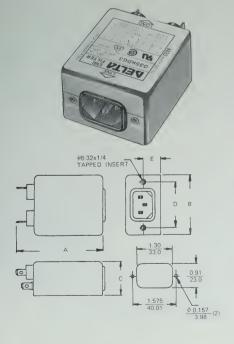


#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DIME	NSIO	NS IN	INCHES	S/mm
PART NO.	RATING	SITLE	Α	В	С	D	E
00014000		DC3	3.20	2.20	1.50	1.575	0,63
03SKDG3		DG3	81.3	55.9	38.1	40.01	16.0
	3A	5,410	2.61	2.20	1,50	1.575	0.63
03SKDW3		DW3	66.3	55.9	38.1	40.01	16.0
		DG3	3.20	2,20	1.75	1.575	0.63
*06SKDG3		DG3	81.3	55.9	44.4	40.01	16.0
	6A	D14/0	2,61	2.20	1.75	1.575	0.63
*06SKDW3		DW3	66.3	55.9	44.4	40.01	16.0

\* APPROVED 4A/250VAC IN VDE

### E. MECHANICAL CONSTRUCTION









#### **B. SPECIFICATIONS**

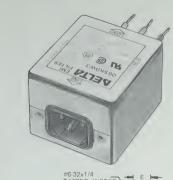
MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

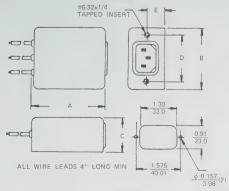
2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND : 2250VDC LINE-TO-LINE : 1450VDC

3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			ERE	OUE	NCV.	-MHz			
RATING	.01	.05				1.0		10	30
3A	15	25	30	30	35	40	45	48	35
6A	12	25	32	35	40	40	40	40	35
DIFFERENT	IAL MOD	E (L-L	.) IN	50 O	нм :	SYST	EM		
3A	1	2	25	35	45	50	45	55	50
6A	0	3	15	25	40	45	38	50	50





DW3

UNIT: INCH

#### A. INTRODUCTION

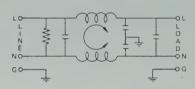
EFFECTIVELY CONTROL EMI SUPPRESSION OF BOTH LINE-TO-LINE AND LINE-TO-GROUND NOISE.

2. WELL SUITED FOR USE IN COMPUTERS, PE-RIPHERAL EQUIPMENT AND INDUSTRIAL APPLICA-TIONS WHERE PULSE, CONTINUOUS AND/OR INTER-MITTENT EMI NOISE IS PRESENT.

3. IN A WIDE SELECTION OF TERMINATIONS AND CURRENT RATINGS.

ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED. MOST PART NUMBERS ARE VDE APPROVED (CERTIFICATE NO. 44499).

#### C. ELECTRICAL SCHEMATIC







#### **B. SPECIFICATIONS**

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA 2. HIPOT PATING (ONE MINUTE)

LINE-TO-GROUND : 2250VDC LINE-TO-LINE : 1450VDC

3. OPERATING FREQUENCY: 50-60Hz
4. RATED VOLTAGE: 115/250VAC
5. MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FREQU	ENCY-	MHz	
RATING	.15	.50	1.0	5.0	10	30
2,3,5A	22	30	38	50	55	50
3A(S), 5A(S)	22	30	38	50	55	50
10A, 10A(S)	20	26	33	45	45	45
20A	14	19	28	42	45	50
DIFFERENTIAL I	MODE (L	-L) IN	50 OH	M SYS	STEM	
2, 3, 5A	12	46	48	55	50	45
3A(S), 5A(S)	12	46	48	55	50	45
	8	38	55	45	45	45
10A, 10A(S)	0					

#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DII	MENSIO	NS IN I	NCHES	mm
PART NO.	RATING		А	В	С	D	Е
*02DKAG5		AG5	2.97	2.00	0.88	2.38	2.75
UZDKAGS	2A	AGS	75 4	50 8	22.4	60.5	69.9
*02DKAW5	ZA	AW5	1.81	2.00	0.88	2.38	2.75
UZDKAWS		AVVS	46.0	50.8	22.4	60.5	69.9
03DKAG5		AG5	2.97	2.00	1.13	2.38	2.75
USDKAGS		AGS	75.4	50.8	28.7	60.5	69.9
03DKAW5		AW5	181	2 00	113	2 38	2 75
OSDKAWS		AVVS	46.0	50.8	28.7	60.5	69.9
03DKDG3	3A	DG3	3.20	2.20	1.25	1.575	0.61
U3DKDG3	SA		813	55 9	318	40 01	15.5
03DKDG3S			3.12	2.00	1.25	1.575	0.61
03010033			793	50 8	318	40 01	15.5
03DKDW3		DW3	2.61	2.20	1.25	1.575	0.6
OSDRDWS		DVVS	66.3	55.9	31.8	40.01	15.5
03DKDW3S		DW3S	2.53	2.00	1.25	1.575	0.6
0001101100		D#455	64.3	50.8	31.8	40.01	15.5
05DKAG5		AG5	2.97	2.00	1.13	2.38	2.75
USDIKAGS		A 43	75.4	50.8	28.7	60.5	69.9
05DKAW5	5A	ΔW5	181	2 00	1 13	2 38	2.75
000.0700		AW5	46.0	50.8	28 7	60.5	69 9
05DKAS5		AS5	3.35	2.00	1 13	2.38	2.75
03D.(A33		700	85.1	50.8	28.7	60.5	69.9

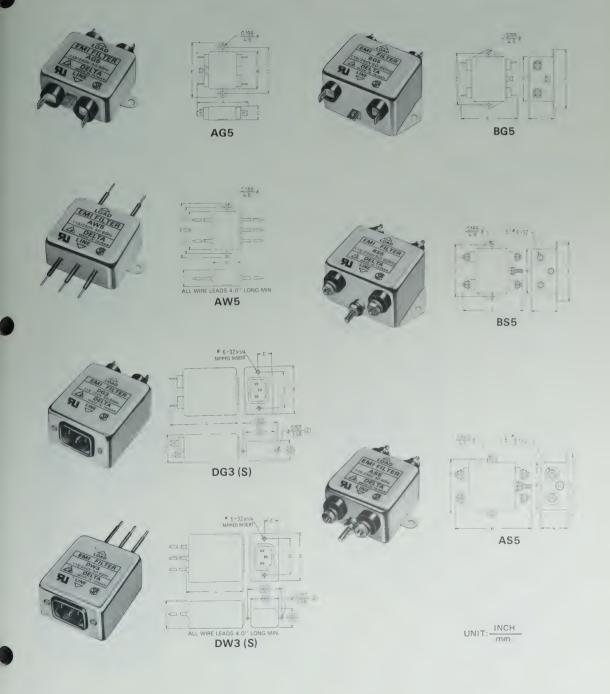
DELTA	CURRENT	STYLE	DIF	MENSIO	NS IN I	NCHES/	mm
PART NO.	RATING	SITLE	Α	В	С	D	Ε
05DKDG3		DG3	3.20	2.20	1.25	1.575	0.61
OSDKDGS		DG3	81.3	55.9	31.8	40.01	15.5
05DKDG3S		DG3S	3.12	2.00	1.25	1.575	0.61
03000033	5A	DUSS	79.3	50.8	31.8	40.01	15.5
05DKDW3	SA	DW3	2.61	2.20	1.25	1.575	0.61
OSDRDWS		DVV3	66.3	55.9	31.8	40.01	15.5
05DKDW3S		DW3S	2,53	2 00	1 25	1 575	0.61
020101133		DWSS	64.3	50.8	31.8	40.01	15.5
10DKAG5		AG5	3 23	2 00	1 13	2.38	2.75
TODRAGS		AGS	82.0	50.8	28 7	60 5	69 9
10DKAW5		AW5	2.06	2.00	1.13	2.38	2.75
TODRAWS		AVVS	523	50.8	28.7	60.5	69.9
10DKAS5		AS5	3.35	2.00	1.13	2.38	2.75
TUDICASS		ASS	85.1	50.8	28.7	60.5	69.9
10DKDG3	10A	DG3	3.64	2.20	1.25	1.575	0.63
1000003	IUA	DGS	92.5	55.9	31.8	40.01	160
10DKDG3S		DG3S	3.20	2.20	1.25	1.575	0.61
		DG33	81 3	55 9	318	40 01	155
10DKDW3		DW3	3,10	2 20	1 25	1 575	0.63
1000000		DVVS	78.8	55 9	31.8	40 01	16.0
10DKDW3S		DW3S	2.61	2.20	1.25	1.575	0.61
, , , , , , , , , , , , , , , , , , , ,		2003	66.3	55.9	31.8	40.01	15.5
△20DKBG5		BG5	3 23	2 50	1.50	2 94	3.32
200,000	20A	535	82.0	63.5	38.1	74.7	84.3
△ 20DKBS5	204	BS5	3.35	2.50	1.50	2.94	3.32
20011033		DOD	85.1	63.5	38.1	74.7	84.3

\* VDE APPROVAL PENDING

APPROVED TO VDE 0565 PART 3 OF 16A

AA APPROVED 6A/250VAC IN VDE

### E. MECHANICAL CONSTRUCTION



## PERFORMANCE FILTERS

#### A. INTRODUCTION

1. TWO STAGE FITLERS PROVIDING HIGH PERFOR-MANCE IN SUPPRESSING BOTH LINE-TO-LINE AND LINE-TO-GROUND NOISE FOR LOW IMPEDANCE APPLICATIONS SUCH AS MOTORS AND SWITCHING POWER SUPPLIES.

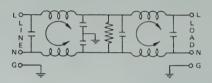
2. OFFERS LOW L

2. OFFERS LOW LEAKAGE CURRENT AND HIGH INSERTION LOSS TO CONTROL PULSE, CONTINUOUS AND/OR INTERMITTENT INTERFERENCE.
3. IN A WIDE SELECTION OF TERMINATIONS AND

CURRENT RATINGS.

4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 44499).

#### C. ELECTRICAL SCHEMATIC









#### **B. SPECIFICATIONS**

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND : 2250VDC LINE-TO-LINE : 1450VDC

LINE-TO-LINE : 1450VDC 3. OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC 5. MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FF	REQU	ENC'	Y-MH	łz		
RATING	.01	.05	.10	.15	.50	1.0	5.0	10	30
2, 3, 5A	7	10	30	45	65	70	70	65	55
3,5A (S)	7	10	30	38	60	65	55	45	40
10A	5	12	20	35	60	70	65	55	50
20A	3	10	15	20	40	50	70	60	50
DIFFERENTI	AL MC	DDE (	L-L)	N 50	ОНІ	M SY	'STE	M	
2, 3, 5A	2	5	6	12	70	70	60	54	46
3,5A (S)	1	5	6	10	65	70	70	60	50
10A	2	7	7	12	60	70	55	50	45
20A	2	9	9	9	55	70	65	60	55

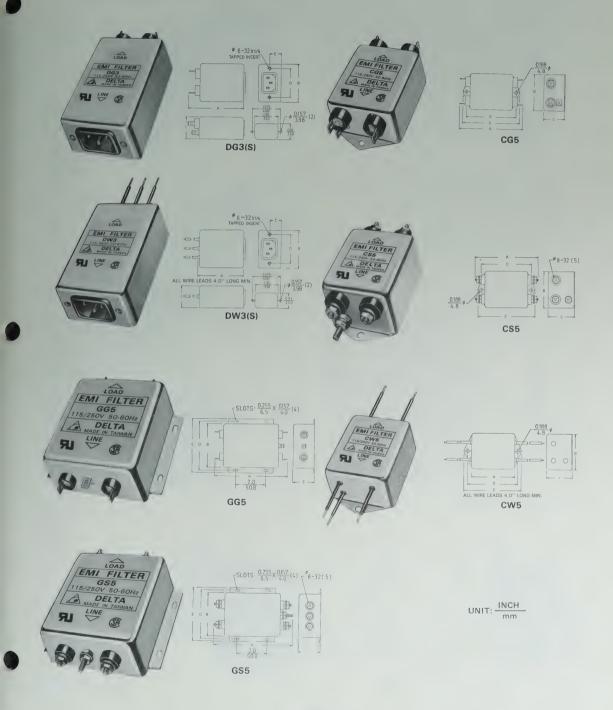
#### D. SERIES DIMENSIONS

DELTA	CURRENT	STYLE	DIM	ENSIO	NS IN I	NCHES	/mm
PART NO.	RATING	01122	Α	В	С	D	Е
02DRCG5		CG5	3.23	1.75	1.13	2 38	2 75
0217/1005	2A		82.0	44.5	28 7	60.5	69.9
02DRCW5		CW5	2 06	1.75	1.13	2.38	2 75
02DITC**3		CVVS	52.3	44.5	28.7	60.5	69.9
03DRCG5		CG5	3 73	2.04	1,13	2.94	3 32
30011000			94.7	51.8	28.7	74.7	84.3
03DRCW5		CW5	2.56	2.04	1.13	2.94	3.32
000110110			65 0	51.8	28.7	74.7	84.3
03DRDG3		DG3	4 33	2.20	1.25	1.575	0.63
00011000	3A		110.0	55.9	31.8	40.01	16.0
03DRDG3S	071	DG3S	3 12	2.04	1.25	1.575	0.61
			79.3	51.8	31.8	40 01	155
03DRDW3		DW3	3 75	2.20	1.25	1.575	0.63
			95 3	55.9	31.8	40 01	16.0
03DRDW3S		DW3S	2 53	2 04	1 25	1.575	0.61
		5,,,,,	64 3	51 8	31.8	40 01	155
05DRCG5		CG5	3 73	2 04	1 13	2.94	3 32
	5.A	- 50	94 7	51.8	28.7	74 7	84 3
05DRCW5		CW5	2 56	2.04	1,13	2.94	3 32
			65.0	51 8	28.7	74 7	84.3

DELTA	CURRENT	STYLE	DIM	ENSIO	NS IN I	NCHES	/mm
PART NO.	RATING	3116	Α	В	С	D	Е
05DRDG3		DG3	4 33	2 20	1.25	1.575	0 63
USDRDG3		DGS	1100	55.9	318	40.01	160
05DRDG3S		DG3S	3,12	2.04	1.25	1.575	0 61
038118033	5A	DG33	79.3	51.8	318	40.01	15.5
05DRDW3		DW3	3 75	2.20	1.25	1.575	0 63
OSDITOVIS		DVVS	95.3	55.9	31.8	40.01	16.0
05DRDW3S		DW3S	2.53	2 04	1.25	1.575	0.61
OSBRDWSS		DWSS	64.3	51.8	31,8	40.01	15.5
10DRCG5		CG5	3 73	2.04	1.54	2.94	3.32
TODACGS		CG5	94 7	51 8	39.1	74 7	84.3
10DRCW5		CW5	2 56	2.04	1.54	2.94	3.32
TODACWS		CVVS	65.0	518	39 1	74.7	84 3
10DRCS5	10A	CS5	3 85	2 04	1 54	2 94	3 32
TODACSS	TOA	C35	97.8	518	39 1	74.7	84 3
10DRDG3		DG3	4 33	2.21	1 25	1.575	0.63
TODROGS		DGS	110.0	56.1	31.8	40.01	1 6.0
10DRDW3		DW3	3.75	2.21	1.25	1.575	0.63
IODADWS		DWS	95 3	56.1	31.8	40.01	1 6.0
20DRGG5		GG5	5.12	3,31	1.54	3.75	4 12
20011665	20A	965	130.0	84.1	39.1	95.3	104.6
20DRGS5	ZUA	GS5	5 23	3.31	1.54	3.75	4.12
20011035		035	132 8	84.1	39 1	95.3	104 6

APPROVED TO VDE 0565 PART 3 OF 16A

#### E. MECHANICAL CONSTRUCTION



## SWITCHING TRANSIENT FILTERS

#### A. INTRODUCTION

1. TWO STAGE FILTERS PROVIDE HIGH INSERTION LOSS FOR BOTH LINE-TO-LINE AND LINE-TO-GROUND EMISSIONS THROUGHOUT THE FREQUENCY RANGE.

EMISSIONS I HROUGHOUT I HE FREQUENCY HANGE.

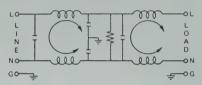
2 PARTICULARLY EFFECTIVE IN REDUCING CONDUCTED -NOISE TO ACCEPTABLE LIMITS FOR
EQUIPMENT THAT MUST COMPLY WITH THE REQUIREMENTS OF VDE 0871, B-LEVEL & FCC PART
15J, CLASS B AND VERY LOW LEAKAGE CURRENT
REQUIREMENTS.

3. A BROAD SELECTION OF TERMINATIONS IS

AVAILABLE.

ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED. MOST PART NUMBERS ARE VDE APPROVED (VDE CERTIFICATE NOS. 44471, 44499

#### C. ELECTRICAL SCHEMATIC







#### **B. SPECIFICATIONS**

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC LINE-TO-LINE

OPERATING FREQUENCY: 50-60Hz 4. RATED VOLTAGE: 115/250VAC
5. MINIMUM INSERTION LOSS IN dB

COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT			FF	REQU	IENC	Y-MH	łz		
RATING	.01	.05	.10	.15	.50	1.0	5.0	10	30
3A (S)	15	25	45	50	70	70	65	60	40
3A	15	30	50	60	75	75	70	60	40
6A	12	25	44	58	70	70	70	60	50
10A	14	26	40	58	70	70	70	70	30
DIFFERENT	IAL MO	DDE (	L-L) I	IN 50	ОН	M SY	STE	VI	
3A (S)	2	8	25	35	48	55	55	55	45
3A (S) 3A	2 3	8 10	25 30	35 36	48 55	55 60	55 60	55 55	45
		_							

#### D. SERIES DIMENSIONS

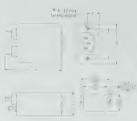
DELTA	CURRENT	STYLE	DIM	ENSIO	NS IN I	NCHES	/mm
PART NO.	RATING		Α	В	С	D	E
*03DPCG5		CG5	6.48	2.04	1.75	5.63	6.04
0001000			164.6	51.8	44.5	143.0	153.4
03DPCG5S		CG5S	3,73	2.04	1.75	2.94	3.32
000.0000		0000	94.7	51.8	44.5	74.7	84.3
* 03DPCW5		CW5	5.25	2.04	1.75	5.63	6.04
0001000	3A	CVVS	133.4	51.8	44.5	143.0	153.4
03DPCW5S	37	CW5S	2.50	2.04	1.75	2.94	3.32
0001 01133		CW53	63.5	51.8	44.5	74.7	84.3
03DPDG3		DG3	3.20	2.20	1.75	1.575	0.63
0001000		DGS	81,3	55.9	44.5	40.01	15.8
03DPDG3S		DG3S	3.12	2.04	1.75	1.575	0.63
		2000	79.3	51.8	44.5	40.01	15.8

DELTA	CURRENT	STYLE	DIN	IENSIO	NS IN I	NCHES,	/mm
PART NO.	RATING	STILE	Α	В	С	D	E
03DPDW3		DW3	2.61	2.20	1.75	1.575	0.63
0381843	3A	DVVS	66.3	55.9	44.4	40.01	15.8
03DPDW3S	37	DW3S	2,53	2.04	1.75	1.575	0.63
000101100		D ** 33	64.3	51.8	44.4	40.01	15.8
06DPCG5		CG5	6.48	2.04	2.25	5.63	6.04
	6A		164.6	51.8	57.2	143.0	153.4
06DPCW5	0/1	CW5	5.25	2.04	2.25	5.63	6.04
000,000		CVVJ	133.4	51.8	57.2	143.0	153.4
10DPCG5		CG5	6.48	2.04	2.75	5.63	6.04
1001000	10A	CG5	164.6	51.8	69.9	143.0	153.4
10DPCW5	,54	CW5	5.25	2.04	2.75	5.63	6.04
			133.4	51.8	69.9	143.0	153.4

<sup>\*</sup> VDE APPROVAL PENDING

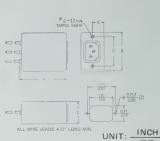
#### E. ELECTRICAL SCHEMATIC





DG3(S)

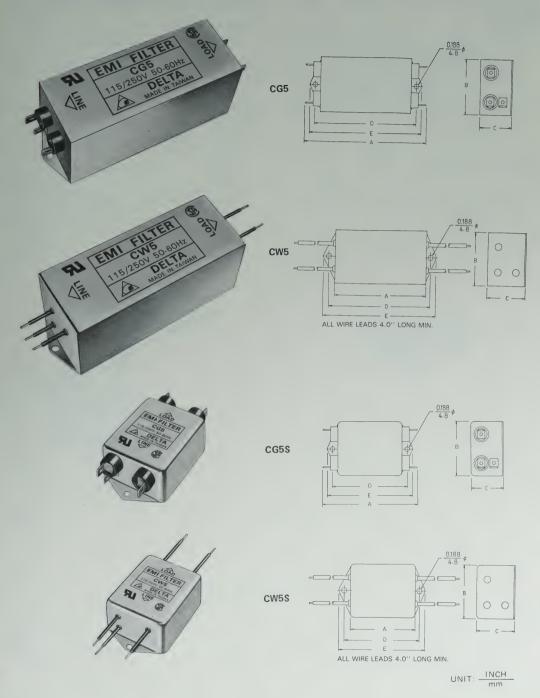




DW3(S)

mm

### E. MECHANICAL CONSTRUCTION



# **BOARD MOUNTING FILTERS**

#### A. INTRODUCTION

- INTRODUCTION

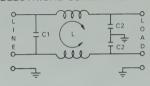
  1. DIRECT PC BOARD MOUNTING FOR EASY INSTALLATION AND SPACE SAVING. BOTH VERTICAL AND HORIZONTAL TYPES ARE AVAILABLE FOR MORE FLEXIBLE BOARD DESIGN.

  2. DESIGNED \*AS A GENERAL PURPOSE FILTER WITH AN IEC CONNECTOR PROVIDING EFFECTIVE EMI SUPPRESSION OF LINE-TO-GROUND NOISE.

  3. COMPACT AND RELIABLE AT LOW COST.

  4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 48857).
- NO. 46857).

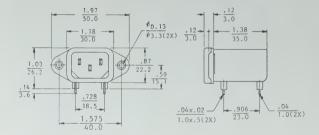
#### C. ELECTRICAL SCHEMATIC



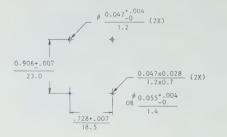
#### D. MECHANICAL CONSTRUCTION



ME1



MOUNTING DIMENSIONS OF PC BOARD











#### **B. SPECIFICATIONS**

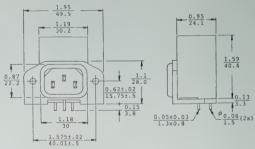
- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- OPERATING FREQUENCY: 50-60Hz RATED VOLTAGE: 115/250VAC
- MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

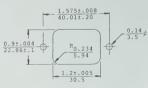
	CURRENT		FF	REQUE	NCY-M	lHz	
TYPE	RATING	.15	.50	1.0	5.0	10	30
01ME1	1A	25	35	40	50	52	55
03ME1	3A	23	30	35	50	50	55
06ME1	6A	12	22	30	45	50	55
01ME2	1A	27	37	42	44	45	40
03ME2	3A	20	28	32	45	50	50
06ME2	6A	12	18	20	35	40	50
10ME2	10A	5	10	12	28	30	45



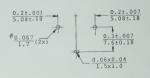
ME2



SUGGESTED CUTOUT (MOUNTING DIMENSIONS OF SOCKET)



MOUNTING DIMENSIONS OF PC BOARD



INCH UNIT: mm

### HIGH PERFORMANCE PC BOARD MOUNTING FILTERS







42 42 40

31

31

#### A. INTRODUCTION

- 1. DIRECT PC BOARD MOUNTING FOR EASY INSTALLA-TION

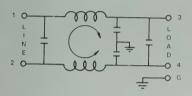
- TION.

  2. REDUCES COSTS, INCREASES RELIABILITY, AND SAVES SPACE BY 50% OVER DISCRETE COMPONENTS.

  3. HIGH PERFORMANCE NOISE ATTENUATION FOR LOW FREQUENCY APPLICATIONS SUCH AS SWITCHING POWER SUPPLIES.

  4. OUTER PLASTIC CASING ALLOWS HIGHER MOUNTING DENSITIES, WHILE INNER METAL SHIELD MINIMIZES RADIATION AND MAGNETIC FLUX INTERFERENCE.
- 5. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 47717).

#### C. ELECTRICAL SCHEMATIC



#### **B. SPECIFICATIONS**

01MK2 02MK2

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:0.25mA @ 250VAC 50Hz:0.45mA
- HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC
- OPERATING FREQUENCY: 50-60Hz
- RATED VOLTAGE: 115/250VAC MINIMUM INSERTION LOSS IN dB

2A

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

TYPE	CURRENT		FR	REQUE	NCY-M	lHz	
	RATING	.15	.50	1.0	5.0	10	30
01MK2	1A	45	45	40	40	40	33
02MK2	2A	35	45	40	40	40	32
03MK2*	3A	30	45	40	40	40	32

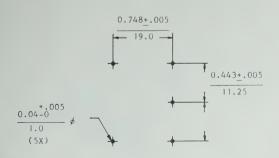
44 40

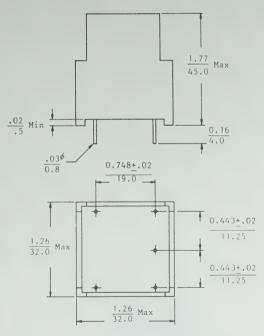
34 03MK2\* 3A 30 44 40 40 \* APPROVED 2A/250VAC IN VDE

### D. MECHANICAL CONSTRUCTION



SUGGESTED MOUNTING PITCH IN P.C. BOARD





UNIT: INCH mm

## HIGH PERFORMANCE POWER ENTRY MODULE EMI FILTERS



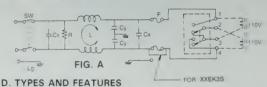
HPF 0565-3



#### A. INTRODUCTION

- 1. POWER MODULE INCORPORATES AN IEC CONNECTOR. SINGLE OR DOUBLE FUSE (IEC 5×20MM) HOLDER. OPTIONAL VOLTAGE SELECTOR SWITCH AND DOUBLE POLE POWER SWITCH, PLUS AN EMI FILTER ALL IN ONE EASY-TO-INSTALL UNIT.
- 2. ADAPTS TO 110-120V OR 220-240V INPUT VOLTAGE SIMPLY BY REVERSING THE FUSE HOLDER.
- 3. EFFECTIVELY SUPPRESS EMI NOISE, BOTH LINE-TO-LINE AND LINE-TO-GROUND, WITH BETTER PERFORMANCE OVER EB SERIES FOR LOW FREQUENCY APPLICATION.
- 4. COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBILITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.
- 5. SEPARATE CIRCUITS FOR EMI FILTER AND VOLTAGE SELECTOR FOR EASY INTEGRATION WITH EQUIPMENT'S BUILT-IN FILTER.
- 6. FEATURES DELTA'S UNIQUE FUSE HOLDER DESIGN TO REDUCE SIZE.
- 7. PART NUMBERS ENDING IN "A" HAVE SPECIALLY DESIGNED GROUND CHOKES TO PROVIDE VERY EFFECTIVE SUPPRESSION OF HIGH FREQUENCY EMI
- 8. ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED. VDE APPROVALS ARE IN PROCESS.

#### C. ELECTRICAL SCHEMATIC



#### B. SPECIFICATIONS

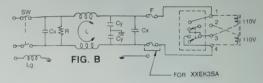
- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz: 0.25mA @ 250VAC 50Hz: 0.45mA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60 Hz
- 4. RATED VOLTAGE: 115-250VAC
- 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

CURRENT	FREQUENCY-MHz							
RATING	0.05	0.10	0.15	0.50	1.0	5.0	10	30
3A(S)	24	30	34	38	38	38	38	25
6A(S)	10	15	20	30	35	40	40	30
10A(S)	10	15	15	25	30	40	40	30
3A(SA)	20	25	30	40	40	40	45	25
6A(SA)	10	15	20	25	30	40	45	30
10A(SA)	10	15	20	25	30	45	45	30

#### DIFFERENTIAL MODE (L-L) IN 50 OHM SYSTEM

3A(S)	2	9	20	50	55	40	40	35
6A(S)	2	5	5	40	50	40	40	40
10A(S)	2	5	3	35	45	40	40	30
3A(SA)	1	10	20	50	50	50	45	30
6A(SA)	2	3	5	40	50	45	40	40
10A(SA)	2	5	3	35	45	45	40	30



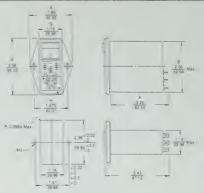
DELTA PART NO.	EK3	EK3A	EK3S	EK3SA	_
FUSE HOLDER	DOUBLE	DOUBLE	SINGLE	SINGLE	+
VOLTAGE SELECTOR SWITCH	Δ	Δ	Δ	Δ	١,
DOUBLE POLE POWER SWITCH*	Δ	Δ	Δ	Δ	1
IEC CONNECTOR	Δ	Δ	Δ	Δ	
FLECTRICAL SCHEMATIC	FIG.A	FIG.B	FIG.A	FIG.B	

\* UL, CSA & VDE APPROVED, CURRENT RATING: UL & CSA-10A BOTH AT 125 VAC, & 250VAC, VDE-6A/250VAC. UL, CSA & VDE APPROVED. CURRENT RATING: UL & CSA-10A BOTH AT 125VAC & 250VAC; VDE-10A/250VAC. ELECTRICAL LIFETIME: 10,000 CYCLES.

MAXIMUM INRUSH CURRENT: 65A

#### E. MECHANICAL CONSTRUCTION





UNIT: INCH

#### ER ENTRY MODULE EMI FILTERS

#### A. INTRODUCTION

- 1. POWER MODULE INCORPORATES AN IEC CONNECTOR. DOUBLE FUSE (IEC 5×20MM) HOLDER, OPTIONAL VOLTAGE SELECTOR SWITCH AND DOUBLE POLE POWER SWITCH, PLUS AN EMI FILTER ALL IN ONE EASY-TO-INSTALL UNIT.
- 2. ADAPTS TO 110-120V OR 220-240V INPUT VOLTAGE SIMPLY BY REVERSING THE FUSE HOLDER.
- 3. EFFECTIVELY SUPPRESS EMI NOISE, BOTH LINE-TO-LINE AND LINE-TO-GROUND, FOR GENERAL APPLICATIONS.
- 4. COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBLITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.
- 5. SEPARATE CIRCUITS FOR EMI FILTER AND VOLTAGE SELECTOR FOR EASY INTEGRATION WITH EQUIPMENT'S BUILT-IN FILTER.
- 6. FEATURES DELTA'S UNIQUE FUSE HOLDER DESIGN TO REDUCE SIZE.
- 7. PART NUMBERS ENDING IN "A" HAVE SPECIALLY DESIGNED GROUND CHOKES TO PROVIDE VERY EFFECTIVE SUPPRESSION OF HIGH FREQUENCY EMI NOISE.
- 8. ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED. VDE APPROVALS ARE IN PROCESS.

#### C. ELECTRICAL SCHEMATIC



D. TYPES AND FEATURES

### **B. SPECIFICATIONS**

1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz: 0.25mA @ 250VAC 50Hz: 0.45mA

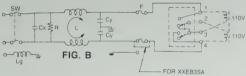
0565-3

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC

- 3. OPERATING FREQUENCY: 50-60 Hz
- 4. RATED VOLTAGE: 115-250VAC
- 5. MINIMUM INSERTION LOSS IN dB

#### COMMON MODE (L-G) IN 50 OHM SYSTEM

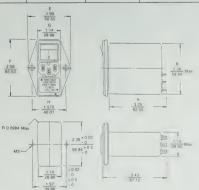
CURRENT		F	REQU	JENCY	-MH	z		
RATING	0.05	0.10	0.15	0.50	1.0	5.0	10	30
3A(S)	20	25	30	38	38	38	38	25
6A(S)	10	15	20	30	35	50	50	30
10A(S)	10	8	20	45	50	50	50	30
3A(SA)	20	25	30	40	40	40	45	30
6A(SA)	10	15	20	25	30	40	45	30
10A(SA)	10	15	20	25	30	45	50	30
DIFFERENTIAL	MODE (L	L) IN	50 O	HM S	YSTE	M		
3A(S)	2	9	12	30	40	40	45	30
6A(S)	2	5	10	20	30	45	45	4(
10A(S)	2	5	8	15	30	40	50	4!
3A(SA)	2	8	12	30	40	35	40	30
6A(SA)	2	5	10	20	30	45	50	40



DELTA PART NO.	EB3	EB3A	EB3S	EB3SA	* UL, CSA & VDE APPROVED.
FUSE HOLDER	DOUBLE	DOUBLE	SINGLE	SINGLE	CURRENT RATING: UL & CSA-10A BOTH AT
VOLTAGE SELECTOR SWITCH*	Δ	Δ	Δ	Δ	** UL, CSA & VDE APPROVED,
DOUBLE POLE POWER SWITCH*	Δ	Δ	Δ	Δ	CURRENT RATING: UL & CSA-10A BOTH AT 125VAC & 250VAC; VDE-10A/250VAC
IEC CONNECTOR	Δ	Δ	Δ	Δ	ELECTRICAL LIFETIME: 10,000 CYCLES
ELECTRICAL SCHEMATIC	FIG.A	FIG.B	FIG.A	FIG.B	MAXIMUM INRUSH CURRENT: 65A

#### E. MECHANICAL CONSTRUCTION









#### A. INTRODUCTION

1. A COMPACT POWER MODULE IN PLASTIC CASE THAT A COMPACT POWER MODULE IN PLASTIC CASE THAT INCORPORATES AN IEC CONNECTOR, A FUSE HOLDER, AN OPTIONAL POWER ON/OFF SWITCH AND A VOLTAGE SELECTOR SWITCH IN ONE SINGLE, EASY-TO-INSTALL UNIT.

PRESENTS MAXIMUM FLEXIBILITY, MINIMUM SPACE REQUIREMENT AND COST SAVINGS OVER INDIVIDUAL COMPONENTS WITH NO ASSEMBLY COST FOR COMPACT DESIGN AND HIGH VOLUME PRODUCTION

2. PRESENTS PRODUCTION.

FUSE HOLDER DESIGNED FOR ONE IEC 5x20mm FUSE AND ONE SPARE FUSE. SAFETY INTER-LOCK PREVENTS FUSE REMOVAL WITH LINE PLUG INSERTED.

ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 2107).

### **B. SPECIFICATIONS**

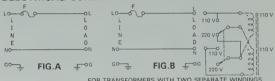
1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:2μA @ 250VAC 50Hz:5μA

2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC

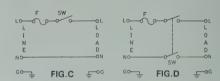
OPERATING FREQUENCY: 48-440Hz

4. RATED VOLTAGE: 115/250VAC

#### C. ELECTRICAL SCHEMATIC



FOR TRANSFORMERS WITH TWO SEPARATE WINDINGS



#### D. TYPES & RATED CURRENT

DELTA PART	NO.	06A1	06A2	06A2D	06A5	T
DATED OURSENIT	115VAC	6A	6A	6A	6A	1
RATED CURRENT	250VAC	6A	6A	4A	6A	1
IEC CONNECTOR		Δ	Δ	Δ	Δ	1
FUSE HOLDER		Δ	Δ	Δ	Δ	1
POWER SWITCH		_	SP1	DP <sup>2</sup>	_	1
VOLTAGE SELECTOR SW		-	-	_	FRONT <sup>3</sup>	1
ELECTRICAL SCHEMATIC		FIG. A	С	D	В	1

SINGLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA- 6A BOTH AT 125VAC & 250VAC VDE- 6A/250VAC ELECTRICAL LIFE TIME: 50,000 CYCLES

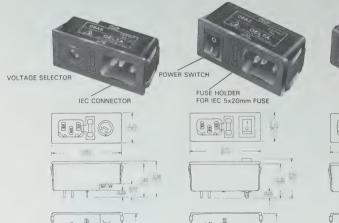
MAXIMUM IN-RUSH CURRENT: 24A

DOUBLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA- 6A/125VAC 4A/250VAC VDE- 4A/250VAC

ELECTRICAL LIFE TIME: 10,000 CYCLES MAXIMUM IN-RUSH CURRENT: 51A

VOLTAGE SELECTOR SW: UL. CSA & VDE APPROVED CURRENT RATING: UL & CSA- 6A BOTH AT 125VAC & 250VAC VDE- 6A AT 250VAC

#### E. MECHANICAL CONSTRUCTION



06A1 (WITHOUT VOLTAGE SELECTOR SW)

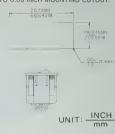




+ N

06A2D

SUGGESTED THICKNESS OF MOUNTING PANEL IS FROM 0.04 TO 0.08 INCH MOUNTING CUTOUT.



THE '0' '1' MARKING OF SINGLE & DOUBLE POLE POWER ON/OFF SWITCHES ARE REVERSED IN POSITION

06A2

#### A. INTRODUCTION

1. A COMPACT POWER MODULE IN METAL CASE THAT INCORPORATES AN IEC CONNECTOR, A FUSE HOLDER, AN OPTIONAL POWER ON/OFF SWITCH AND A VOLTAGE SELECTOR SWITCH IN

SWITCH AND A VOLTAGE SELECTOR SWITCH IN ONE SINGLE, EASY-TO-INSTALL UNIT.

2. DUE TO COMPACT DESIGN AND HIGH VOLUME PRODUCTION, THIS SERIES PRESENTS MAXIMUM FLEXIBILITY, MINIMUM SPACE REQUIREMENT AND COST SAVINGS OVER INDIVIDUAL COMPONENTS WITH NO ASSEMBLY COST.

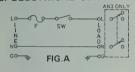
3. FUSE HOLDER DESIGNED FOR ONE IEC 5x20mm FUSE AND ONE SPARE FUSE. SAFETY INTERLOCK PREVENTS FUSE REMOVAL WITH LINE PLUG INSEPTED.

4. ALL PART NUMBERS ARE UL RECOGNIZED, CSA CERTIFIED AND VDE APPROVED (VDE CERTIFICATE NO. 2107).

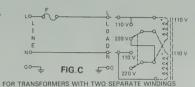
#### **B. SPECIFICATIONS**

- 1. MAXIMUM LEAKAGE CURRENT EACH LINE-TO-GROUND @ 115VAC 60Hz:2µA @ 250VAC 50Hz:5µA
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE: 1450VDC
- 3. OPERATING FREQUENCY: 48-440Hz 4. RATED VOLTAGE: 115/250VAC

#### C. ELECTRICAL SCHEMATIC







#### D. TYPES & RATED CURRENT

DELTA PART	NO.	06AN2	06AN2D	06AN3	06AN3D	06AN5	1
DATES OURDENIT	115VAC	6A	6A	6A	6A	6A	
RATED CURRENT	250VAC	6A	4A	5A	4A	6A	],
IEC CONNECTOR		Δ	Δ	Δ	Δ	Δ	]
FUSE HOLDER		Δ	Δ	Δ	Δ	Δ	
POWER SWITCH		SP1	DP <sup>2</sup>	SP1	DP <sup>2</sup>	-	] 3
VOLTAGE SELECTOR SW		-	-	REAR <sup>3</sup>	REAR <sup>3</sup>	FRONT⁴	] 4
ELECTRICAL SCHEMATIC		FIG. A	В	А	В	С	L

SINGLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA: 64 B 05TH AT 125VAC & 250VAC VDE: 6A/250VAC ELECTRICAL LIFE TIME: 50.000 CYCLES MAXIMUM IN-RUSH CURRENT: 24A

DOUBLE POLE: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA: 6A/125VAC 4A/250VAC VDE: 4A/250VAC ELECTRICAL LIFE TIME: 10,000 CYCLES MAXIMUM IN-RUSH CURRENT: 51A

VOLTAGE SELECTOR SW: UL, CSA & VDE APPROVED CURRENT RATING: 10A/125VAC 5A/250VAC

VOLTAGE SELECTOR SW: UL, CSA & VDE APPROVED CURRENT RATING: UL & CSA- 6A BOTH AT 125VAC & 250VAC VDE- 6A/250VAC

#### E. MECHANICAL CONSTRUCTION



FOR IEC 5x20mm FUSE





06AN2,06AN2D





06AN3,06AN3D



VOLTAGE SELECTOR





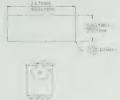
DELTA





06AN5

SUGGESTED THICKNESS OF MOUNTING PANEL IS FROM 0.04 TO 0.08 INCH MOUNTING CUTOUT





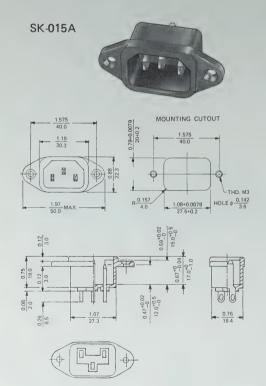
THE '0' '1' MARKING OF SINGLE & DOUBLE POLE POWER ON/OFF SWITCHES ARE REVERSED IN POSITION

# CONNECTOR SERIES AL & 2107

#### A. INTRODUCTION

- 1. DESIGNED TO MEET THE GLOBALLY ACCEPTED IEC320/CEE22 THAT ALLOWS USERS TO COMPLY WITH INDUSTRIAL STANDARD IN POWER ENTRY REQUIREMENT.
- REQUIREMENT.
  SK-015A IS AN IEC CONNECTOR WITH EARTH
  GROUND, SK-1000 COMBINES AN IEC CONNECTOR
  WITH EARTH GROUND AND A FUSE HOLDER FOR
  AN IEC 5x20mm FUSE AND ONE SPARE FUSE, THE
  SAFETY INTERLOCK PREVENTS FUSE REMOVAL
  WITH LINE PLUG INSERTED.
  COLD CONNECTOR WITH TEMPERATURE RISE
  DE GEOC
- 3. COLD OF 65°C
- SCREW MOUNTING GENERAL PURPOSE TYPE RE-CEPTACLE.
- 5. NICKEL PLATED BRASS PINS AND REAR SOLDER TYPE LUGS.
- ALL DESIGN ARE UL RECOGNIZED (FILE #E97653 FOR SK-015A; #E104776 FOR SK-1000), CSA CERTIFIED (FILE #LR60228 FOR SK-015A, #LR60228 FOR SK-1000) AND VDE APPROVED (CERTIFICATE #52554 FOR SK-015A; VDE NO. PENDING FOR SK-1000). ADDI-TIONALLY SK-015A IS SEV APPROVED (CERTIFICATE NO. E3.11/133) AND IS NEMKO APPROVED (CERTIFICATE NO. 11979).

#### C. MECHANICAL CONSTRUCTION











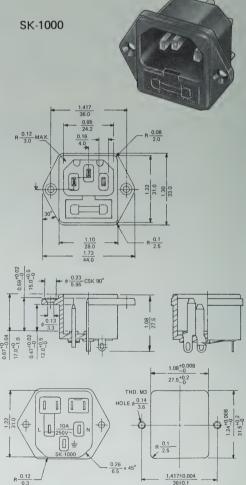


#### **B. SPECIFICATIONS**

- CURRENT RATING: SK-1000 UL AND CSA APPROVED FOR 15A AT BOTH 125VAC & 250VAC; VDE APPROVED
- FOR 10A AT 250VAC; VDE APPROVED FOR 10A AT 250VAC

  SK-015A UL AND CSA APPROVED FOR 15A AT BOTH 125VAC & 250VAC; VDE, SEV AND NEMKO APPROVED FOR 10A AT 250VAC.

  MAX. PIN TEMPERATURE RISE:
- 65°C AT COLD CONDITION (AMBIENT TEMP. AT 25°C) 3. INSULATION RESISTANCE:
- 10M OHM MIN. AT 500VDC DIELECTRIC STRENGTH:
- 2000VAC BETWEEN PIN TO PIN (ONE MINUTE)
- 5. FLAMMABILITY CLASS: UL 94V-0



MOUNTING CUTOUT

UNIT:

INCH

mm

# C SERIES POWER ENTRY MODULES

#### A. INTRODUCTION

- POWER MODULE INCORPORATES AN IEC CONNECTOR,
   DOUBLE FUSE (IEC 5×20 MM) HOLDER, OPTIONAL
   VOLTAGE SELECTOR SWITCH AND DOUBLE POLE POWER
   SWITCH, ALL IN ONE EASY-TO-INSTALL UNIT.
- 2. ADAPTS TO 100-120V OR 200-240V INPUT VOLTAGE SIMPLY BY REVERSING THE FUSE HOLDER.
- 3. COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBILITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.
- 4. ALL PART NUMBERS ARE UL RECOGNIZED AND CSA CERTIFIED AND VDE APPROVED.

## R



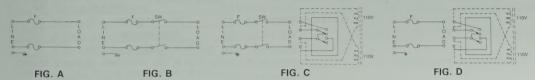




#### **B. SPECIFICATIONS**

- 1. CURRENT RATING: 250V 6AMPS. : 115V 10AMPS
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60 Hz
- 4. RATED VOLTAGE: 100-120VAC/200-240VAC

#### C. ELECTRICAL SCHEMATIC

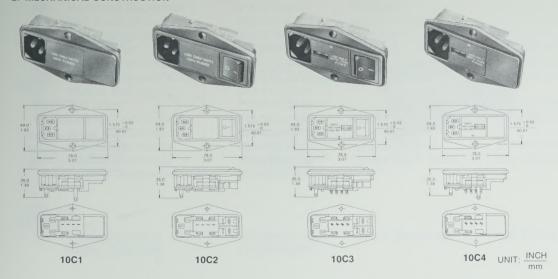


#### D. TYPES & RATED CURRENT

DELTA PART NO.		10C1	10C2	10C3	10C4
	115 VAC	10A	10A	10A	10A
RATED CURRENT	250 VAC	10A	10A	10A	10A
IEC CONNECTOR		Δ	Δ	Δ	Δ
FUSE HOLDER		Δ	Δ	Δ	Δ
DOUBLE POLE POWER SWITCH*		_	Δ	Δ	_
VOLTAGE SELECTOR SWITCH**			_	Δ	Δ
ELECTRICAL SCHEMATIC		А	В	С	D

- \* UL, CSA & VDE APPROVED, CURRENT RATING: UL & CSA-6A/125 VAC, 4A/250VAC; VDE-4A/250VAC. ELECTRICAL LIFE TIME: 10,000 CYCLES. MAXIMUM IN-RUSH CURRENT: 51A
- \*\* UL, CSA & VDE APPROVED, CURRENT RATING: UL & CSA-10A BOTH AT 125VAC & 250VAC; VDE-6A/250VAC

#### E. MECHANICAL CONSTRUCTION

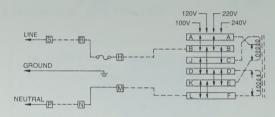


## SFRIFS POWER ENTRY MODULES

#### A. INTRODUCTION

- 1. POWER MODULE INCORPORATES AN IEC CONNECTOR, A SINGLE FUSE (IEC 0.25" × 1.25" FUSE) HOLDER, AND VOLTAGE SELECTOR SWITCH. ALL IN ONE EASY-TO-INSTALL UNIT.
- 2. ADAPTS TO 100-120V OR 200-240V INPUT VOLTAGE SIMPLY BY REVERSING THE VOLTAGE SELECTOR.
- 3. FUSE PULLER DESIGN ENABLES EASY CHANGE OF FUSE.
- 4. THE FUSE HOLDER IS DESIGNED FOR ONE IEC 6.3 × 32mm FUSE. SAFETY DEVICE PREVENTS FUSE REMOVAL WITH LINE PLUG INSERTED.
- 5. COMPACT DESIGN AND HIGH VOLUME PRODUCTION PROVIDE MAXIMUM FLEXIBILITY AND SIGNIFICANT SAVINGS IN SPACE AND COST OVER ASSEMBLY OF INDIVIDUAL COMPONENTS.
- 6. ALL PART NUMBERS ARE UL APPROVED, CSA CERTIFIED AND VDE APPROVED.

#### C. ELECTRICAL SCHEMATIC









#### **B. SPECIFICATIONS**

- 1. CURRENT RATING: 6AMPS AC MAX.
- 2. HIPOT RATING (ONE MINUTE) LINE-TO-GROUND: 2250VDC LINE-TO-LINE : 1450VDC
- 3. OPERATING FREQUENCY: 50-60 Hz
- 4. RATED VOLTAGE: 100-120VAC/200-240VAC

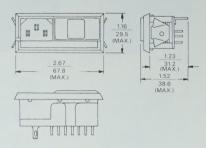
#### D. TYPES & RATED CURRENT

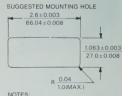
DELTA PART NO.		06L4
115 VAC		6A
RATED CURRENT	250 VAC	6A
IEC CONNECTOR		Δ
FUSE HOLDER		Δ
VOLTAGE SELECTOR SWITCH*		Δ

\* UL, CSA & VDE APPROVED, CURRENT RATING: UL-15 & CSA-6A BOTH AT 125 VAC & 250VAC: VDE-6A/250VAC

#### E. MECHANICAL CONSTRUCTION







NOTES: 1. FUSE COVER DOOR SHOWN IN OPEN POSITION. 2. STANDARD UNITS MOUNT PANEL THICKNESS 0.04 ~ 0.063 SPECIAL UNITS MOUNT PANEL THICKNESS 0.06 ~ 0.09

UNIT: INCH

## STATE DISTRIBUTORS

### **REPRESENTATIVES**

AL	Hammond Electronics	205-830-4764	TMA	205-883-7893
AZ	Cypress Electronics	602-949-0802	Moss Marketing	303-455-7205
CA	Compass Component	408-432-7575	Gagner-Toomey	408-244-2200
	Cypress Electronics			
	Buena Park	714-521-5230	Gravley Assoc.	714-852-9994
	San Diego	619-535-0011		
	Santa Clara	408-980-2500	Gagner-Toomey	408-244-2200
	Woodland Hills	818-710-7780	Gravley Assoc.	714-852-9994
	Ital Electronics	714-990-0922		
	Pyramid Electronics			
	Fullerton	714-773-0781	Gravley Assoc.	714-852-9994
	San Diego	619-271-5404		
	Santa Clara	408-727-9810	Gagner-Toomey	408-244-2200
	Sierra West	408-435-7477		
	Sigma Electronics	619-565-2000	Gravley Assoc.	714-852-9994
	Vision Electronics	714-261-6777		
CO	Added Value Electronic	303-422-1701	Moss Marketing	303-455-7205
	Cypress Electronics	303-792-5829		
	Displays Plus	303-779-8053		
	Indelco Electronics	303-694-9444		
CT	Cronin Electronics	203-265-3134	Kitchen & Kutchin	617-229-2660
FL	Hammond Electronics	305-973-7103	HAI	305-752-7520
GA	Hammond Electronics	404-449-1996	TMA	404-446-3565
IL	Goold Electronics	312-593-3220	Eagle Technical	312-991-0700
	Lectro Components	312-690-0520		
	Upco Distributors	312-459-1222		
KS			Electri Rep.	913-649-2168
MA	Cronin Electronics	617-449-5000	Kitchen & Kutchin	617-229-2660
	JV Electronics	508-657-6523		
MD	Petricko Sales	301-937-4960	Eltron Sales	703-635-7201
MN	Berquist Company	612-835-2322	Hanna Lind	612-942-8554
	Cypress Electronics	612-934-2104		
NC	Hammond Electronics	919-275-6391	RG Sales	704-847-0049
NH	TNT Electronics	603-880-8300	Kitchen & Kutchin	617-229-2660
NJ	GRS Electronics	609-964-8560	Component Consultants	609-654-5300
NY	Qar Industrial	914-699-2224	Cambridge Allen	201-464-0203
ОН	Schuster Electronics	216-425-8134	Omega Sales	513-434-5507
OR	Cypress Electronics	503-642-2001	Turn-A-Round Sales	503-640-4641
	Murphy Electronics	503-642-2001		
PA	Pyttronics	215-643-2850	Component Consultants	609-654-5300
TX	Cypress Electronics	214-869-1435	Southwestern Technical	214-369-0977
	Prime Distributing	800-526-7478		
UT	Cypress Electronics	801-486-3775	Moss Marketing	303-455-7205
WA	Cypress Electronics	206-483-1144	Turn-A-Round Sales	503-640-4641
	Pyramid Electronics	206-883-7200		

## CANADA

Future Electronics	514-694-7710	Source Electronics	416-676-0830
Prelco Electronics	416-678-0401		



### **DELTA PRODUCTS CORPORATION**

#### **U.S.A. OPERATIONS**

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9TH FL., ASIA ENTERPRISE CENTER NO. 602, MIN CHUAN E. ROAD TAIPEI, TAIWAN, R.O.C. TEL: (2) 716-4822 FAX: (2) 716-9764 EAST COAST OFFICE 41 GANNET ROAD FARMINGTON, NY 14425 TEL: (716) 924-7590 FAX: (716) 924-9851

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HARDSTRASSE 72 CH-5430 WETTINGEN SWITZERLAND TEL: (56) 275800 FAX: (56) 261486